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Clinical Lecture.

FRACTURE OF THE LEG.[1]

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A BROKEN leg is, perhaps, the most common of all fractures, except fracture of the radius. It is a fracture of which the treatment is, on the whole, satisfactory, though there is apt to be a certain amount of deformity which cannot be avoided.

This boy was brought in on October 30, and presented no evidence of shock. The fracture was a simple one, and was caused by direct violence. It is possible that the fracture is limited to the tibia, but from the existence of slight axial deformity, I am disposed to think that both bones are involved.

A fracture from direct violence is apt to be transverse, which is the most favorable direction. Where it is oblique, there is more shortening. Shortening, however, is met with to some extent in every fracture; in the process of union, a certain degree of shortening is unavoidable. In the process of union there is a retrograde change of formed bone to granulation-tissue. The ensheathing callus and pin callus are only temporary, and, in the permanent cure, we have the bone itself converted into granulation-tissue, and in union the ends come together with some shortening. I can illustrate this by what occurs in mending a broken piece of sealing-wax. You can only mend it by melting the ends, shortening it by so much. This shortening in bones may be offset by other causes. Thus, in young persons, we sometimes have the bone, not shortened, but lengthened. This is due to the fact that in the young, we have still to consider the growth of bone from the epiphyseal extremities. Now, if you have a fracture, or any other cause of irritation of bone, the irritation is transmitted to these epiphyses, and, in a young subject, will cause increased activity and overgrowth of bone. You often see this in osteitis; there you have not only thickening or widening, but you also have the bone becoming longer, from irritation transmitted to the epiphyses. Sometimes, where only one or two bones is involved, you have great distortion. In the leg, when the fibula is not affected while the tibia is diseased, the tibia grows so much that the foot is turned over on one side; so is it in the forearm, when the radius is affected, without involvement of the ulna.

Just in the same way in fracture, you may have the bones becoming longer. This is sometimes seen in fractures of the thigh in children; instead of shortening, as in the adult, there is lengthening. This is not a permanent condition, as the other leg catches up in time. The fact that there is lengthening under these circumstances, is no contradiction of the statement that shortening follows all fractures, as the lengthening does not occur at the seat of injury, and is met with only in the young.

To return to the deformity, we not only have shortening—which is more marked in oblique than in transverse fracture, owing to the ends of the bone gliding over each other—but we also have axial deformity. The fracture often takes a spiral direction, whence it is sometimes called a corkscrew fracture, and the result is that the constant action of the powerful muscles, drawing the lower fragment upward, causes the bones not only to glide past one another in the same plane, but also causes a twisting of the bones and consequent axial deformity.

[1] Delivered at the Children's Hospital, November 4, 1891.

Then there is a disposition, in all fractures of the lower extremity, for the knee to be everted. The explanation usually given is that the muscles of the outer are stronger than those of the inner side, but a more probable reason, in fracture of the thigh at least, is that the outer is absolutely heavier than the inner half of the limb. Experiments have been tried by making sections in a vertical plane, which have shown that the outer half weighs more than the inner half. The consequence is, that when you have an interruption of the continuity in the femur, the outer half rolls outward, simply by its greater weight. You know that in the relaxation of sleep, the knee rolls outward; that is also the position in death, and it is owing to the greater weight of the outer portion.

Now, in fractures of the leg, you also have the knee turned outwards in this manner, and if not careful to keep the foot in its proper relative position, you will have axial deformity. To guard against this, it is important to see that certain bony points are kept in the same plane. These points are the inner condyle of the femur, the inner malleolus, and the ball of the great toe. Some surgeons give the inner edge of the patella instead of the inner condyle; but the position of the patella is not so fixed, and, besides, it is too near the median line. Therefore, we try to keep these three points in the same vertical plane, or in a plane which, if made vertical, would still pass through these three points. You cannot always keep them in a vertical plane, but must maintain their relative position. If you can succeed in doing this, you will avoid axial deformity.

The reason I think there is a fracture of the fibula in the case before us, is that there was this tendency to axial deformity, which hardly would have occurred if the fibula had remained as a support. We could not get actual signs of fracture of the fibula because it is deeply seated at this part, and very small in children of this age. It is very difficult to get crepitus and the other signs of fracture from a small bone in such a position. There was tenderness over the place where we thought the fracture was, but I did not care to put the child to the pain of making a positive diagnosis of fracture of the fibula, as it would not affect our treatment.

The most satisfactory apparatus to keep the leg in position is the fracture-box; but it must be used with care. It is necessary to do more than just put the leg in the box and let it take care of itself. You should have a pillow of sufficient thickness to make moderate lateral support or pressure on either side. You should also have the box and pillow of sufficient length to reach a little above the knee. Remember, that in all cases of fracture, you must fix the neighboring articulations. If you have too short a fracture-box you do not fix the knee, and therefore you do not fix the tibia and fibula as you should. Then you must see that the foot is brought well down to the foot-board, which should be at right angles to the floor of the box. The foot should be kept at as near a right angle to the leg as it is possible for you to get it. If it is not, the powerful contractions of the gastrocnemius and soleus muscles may not only cause a deformity in the axis of the bone, but also a condition of pointed toe, which is really an acquired talipes equinus, the heel being drawn up and the toe pointing downwards. You will then find that when the patient gets up he has an artificial pes equinus, so that he cannot bring the sole of the foot to the ground, and a longer time may be consumed in getting the heel down to the proper position than was required for the treatment of the original injury. By keeping the foot, as nearly as possible, at a right angle to the leg that difficulty will not be encountered.

You must be careful not to get a sore heel. The os calcis comes very near the skin, and slight pressure causes ulceration. We therefore place a pad of cotton above the heel; not directly beneath the heel, for there it would increase the tendency to slough, but just above the os calcis, beneath the tendo Achillis, and in that way the heel is relieved from pressure. We also place a cotton pad between the foot-board and sole of the foot in order to prevent pressure there.

Then you see that the limb is in a generally straight position, and note the relation of the three bony prominences which I have referred to.

When I say in a straight position, I use a general term which you all understand, but which is not strictly correct, because—as a matter of fact—the normal leg is usually not straight. If you look at the sound leg, you will see it is bowed to some extent to its outer side, so that if a splint were made to touch the inner condyle and inner malleolus, there would be a gap between it and the central portion of the leg. If you were to make the broken leg mathematically straight you would have it different from the sound limb, and the patient, on recovery, would be lame. Therefore, when we say a straight leg, we mean that it should correspond with that of the uninjured side.

In these cases you may, if you think necessary, make extension through the slits in the foot-board of the fracture-box; but it is usually not required. You cannot apply extension very satisfactorily, because there is so little space below the seat of the fracture to which extending bands can be attached. We usually satisfy ourselves with making extension with the hands and keeping the foot well down against the foot-board of the fracture-box. Bearing in mind the points I have given, you can treat these cases successfully with a fracture-box, and with less trouble than with any other apparatus of which I know.

If you have difficulty in keeping the parts in their proper relation, you may gain assistance from the judicious use of compresses. When you have a fracture low down, invoking either the tibia or fibula, or both, you may have to use pressure to keep the foot straight, as we do in what is known as Pott's fracture, but when the injury is about the middle of the limb—as here—compresses are usually not required.

When this boy came here, there were superficial pain and tenderness, for which we applied lint saturated with lead-water and laudanum. The tenderness having now disappeared, we will to-day omit this part of the dressing, since there is reason to believe that its long continuance sometimes causes delayed union.

DR. PHILIP S. WALES, U. S. N., Medical Director National Museum of Hygiene, of Washington, recommended to Lieutenant Perry, the Arctic navigator, that the underwear of the exploring party should be so constructed as to prevent radiation, and also encircle the body with a stationary atmosphere. The theories for clothing of Pettenkoffer and Parkes have also a bearing on the above, and they are conceded to be embodied in the Jaros Hygienic Underwear. The excellent results with an extra heavy fabric of these garments in the United States Army North Posts, have made it possible to successfully withstand a temperature of forty-seven degrees below zero and in a thirty mile ride without a buffalo coat.—*The Prescription.*

GERMAN NOTES.

HERMAN D. MARCUS, M.D.

THUMENOL IN SKIN DISEASES.—Professor A. Heisser (Breslau), reports the following regarding thumenol and its value in skin diseases, based upon his experience with this drug in his clinic and private practice.

Thumenol is a black compound prepared from mineral oil. Neisser used a tincture of thumenol consisting of

℞.—Thumenoli ..... ℈iv.
Aetheris sulph.
Spt. vin. rect.
Aquæ dest. (or glycerini).....āā ℥iv.
M.—S. Tincture of thumenol.

He also used salves, pastes and plasters prepared from thumenol.

Moist and newly inflamed eczematous surfaces were soon dried up and healed. The drying up action of this drug places it as an excellent remedy in burns.

Irritation from this drug is very small. Peculiar to this drug is its power to alleviate the itching so much complained of in eczema, parasitic dermatitis, as well as in prurigo and forms of pruritus. It is useful as a dressing in superficial or deeper ulcerations, especially if the parts are clean, not excessive suppurating or too moist, and if no great loss of tissue has taken place; also in the "ecthyma" forms, after intense pediculosis; in rhagadia due to eczema; in larcerations or wounds made by animals. Thumenol does not possess a special anti-parasitic action. Internally, even in large doses, it seems to have no effect.

It is used as thumenol water (2 to 5 per cent.) in acute recurring eczema. As an ointment, substituting zinc ointment in ulcerations (lupus, etc.), impetigo contagiosa and pemphigus. It is best used by adding 5 to 10 per cent. thumenol sulfon (oil) to the base; thin ointments are less valuable. Neisser used the following ointment frequently:

℞.—Thumenol..... gr. xxxvij. ℈iv.
Flor. zinc,
Bismuth subnit .....āā gr. xxxvij.
Ung. lenit,
Ung. simpl.....āā ℥vss.

Tinctures are used in dry, scaley skin diseases.
—*Deutsche Med. Wochenschrift.*

KRESOLJODID.—Kresoljodid (Fr. Bayer & Co., Elberfeld), is a fine, yellow strong-smelling powder, insoluble in water, but very easily dissolved in alcohol, ether and fat oils. On internal administration very little iodine is given off, proving that even after extensive and long use no symptoms of poisoning could appear.

In acute and excessive secreting rhinitis, kresoljodid, if blowed into the nose as powder, diminished the secretion rapidly. Seifert found the same results in gonorrhœa and other diseases of the genital organs, which are accompanied by secretion. As an ointment (1-10) it can be used in rhinitis atrophicans, simplex and fœtida; also in eczema narium, it causing a copious discharge.—Petersen, in *Muench. Med. Wochenschr.*

The next number of this journal will be devoted exclusively to the consideration of the present epidemic of influenza.

Original Articles.

OBSERVATIONS ON STRICTURE OF THE URETHRA.[1]

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MR. PRESIDENT AND MEMBERS OF THE MISSISSIPPI VALLEY ASSOCIATION: In the paper which I have the honor to present to you it is not my intention to attempt the consideration of the entire subject of stricture of the urethra; it would not only be tiresome, but of little practical value. I desire, therefore, to call your attention to a few points which have appeared to me suggestive and practical. In presenting these points my remarks must, of necessity, be of a more or less desultory character.

The causes of stricture are too familiar to require much discussion. There is one point, however, in which I beg leave to differ with the accepted authorities upon this subject. It is asserted that it is upon the long continuance rather than the severity of urethral inflammation that the formation of stricture depends. It will, nevertheless, be found that the so-called long-continued inflammation either consists of a series of bastard claps, coming on at greater or lesser intervals, or of a chronic and continuous pathological process following directly in the wake of a virulent urethritis. Both these conditions are dependent upon the damage done by the primary virulent process, and the probability of their occurrence is directly proportionate to the severity of the primary attack. In brief, stricture does not form because the inflammation is long continued, but the inflammation is protracted because a stricture, or the foundation for it, was formed during the acute urethritis.

The direct relation of stricture to the acuteness of the primary inflammation will appear when the mechanical factor in the localization of stricture is taken into consideration. The explanations which have been advanced to account for the localization of stricture at one point in the canal rather than another, have seemed to me unsatisfactory. By the consideration of a very simple mechanical factor, however, the explanation appears quite simple. I believe that friction is the determining element in the causation of all strictures not due directly to chemical or mechanical violence.

The urethra is by no means a passive structure, but is at greater or lesser intervals called into functional activity; the particular function which concerns us here being that of urination. We will consider the urethra for our present purpose as an elastic tube, comparable to a section of rubber hose, through which, at variable intervals, a certain quantity of fluid is forced at a certain degree of hydrostatic pressure. This tube is not uniformly distensible, but is narrower at some points than others. The points of normal contraction are too well known to require description. In addition to these points of normal and absolute contraction, I believe that there are in the pendulous portion of the canal points of relative inelasticity and indistensibility. These are the so-called points of normal contraction of Weir and others, and constitute a large proportion of the strictures of large caliber of Otis. They are the battle-

[1] Read before the Mississippi Valley Medical Association, October 16, 1891.

ground of the warring factions, among whom the chief bone of contention is, "to cut or not to cut." And I hope to be able to show where the "rub" comes in.

When the urethra is in its normal condition there is no abnormal strain at any point in the canal; and while it may balloon out unequally under the pressure of the escaping urine, there is no injurious friction. Now, supposing the caliber of the urethra to be diminished by inflammatory infiltration to one-half, or, if we take its normal property of distensibility into consideration, perhaps one-tenth its normal capacity, the same degree of hydrostatic pressure prevailing, what is the consequence? Necessarily friction. And where is that friction the greatest? Obviously, at the points of least distensibility—*i. e.*, at the points of normal contraction and of relative inelasticity. These points are either at the anatomical lines of demarcation of the divisions of the canal, or in situations where the elastic and muscular elements of the urethra are sparse as compared with the fibro-connective tissue. A very simple analogy will show the relation of these two conditions to the friction alluded to. If a string be tied about a rubber tube so as to constrict it, we have a condition similar to a point of normal urethral contraction. Tie another string about the tube in such a manner that, while it does not constrict it, there is a restriction of expansion under hydrostatic pressure, and we have a point of relative inelasticity. In my opinion these points of relative inelasticity can be demonstrated in almost any urethra. Regarding the points of normal contraction, there is, of course, no question.

Using this same rubber tube as an illustration, we will diminish its caliber throughout, leaving the strings in situ. We will now apply the hydrostatic pressure at frequent intervals and consider the result. Obviously there would soon be a wearing away of the tube at the site of the strings; and there is the rub in the case of the urethra.

We will now add another element to the wearing process. In the course of acute urethritis, there is a tendency to rapid formation of epithelium. This is a reparative, a conservative process, but unfortunately a certain biological law comes into play here, viz: In inverse proportion to the degree as differentiation of cells is their rapidity of proliferation, and their tendency to degeneration. The consequence of this law is an erosion at the point of friction, and secondarily, a plastic deposit to resist strain. Comment upon this is not necessary. The subsequent metamorphosis of this deposit is well known. In the pendulous urethra especially, and probably also in the fixed portion, the plastic deposit may absorb, but the friction remains and a gleet is often kept up. The points of normal contraction and relative inelasticity have now become of pathological significance.

Now, I wish to ask what difference it makes whether these points were primarily present in the canal as normal conditions or not, as regards their surgical relations from the standpoint of treatment? The question is not, whether they are adventitious as claimed by Otis, or normal as claimed by Weir, but what is their relations to the morbid state of the canal? I claim that the difference between the two conditions is one of degree and not of kind, and I can see no logic in the dispute upon either side.

From what has been said I think that the direct relation of stricture to the severity of the primary urethritis may be clearly seen.

It is a self-evident proposition that if what I have said regarding the relation of stricture to friction be true, the same holds good with relation to granular, congested and eroded patches in the canal. I believe, moreover, that within certain limits the indications for treatment may be the same. In addition to the element of friction in producing strictures and other lesions of the urethra, I acknowledge the importance of retained infections and inflammatory products at points of narrowing.

M. Fordos has recently called attention to what he terms slight traumatisms of the urethra during erection, as a cause of stricture. In my lectures for ten years past, I have claimed that slight injuries of the mucous membrane and, perhaps, of the corpus spongiosum frequently result during urethritis, as a result of erections while the elasticity of the spongy urethra is impaired by plastic exudate. These injuries are, of course, most likely to occur if chordee be present, or if intercourse be attempted; but may happen when neither circumstance prevails. It is not necessary to "break the chordee" to produce them. Whenever any appreciable quantity of blood appears in a gonnorrhœal discharge, such minute traumatisms may be inferred. These slight injuries often, in my opinion, form the groundwork for future stricture building.

Relative frequency of Stricture in the various portions of the canal.—No one who has not given this subject special study can realize the difficulty of forming an accurate estimate of the relative frequency of stricture in the various parts of the canal. The different standpoints of observation give widely varying results. Otis and Thompson can never be nearer together than they are to-day, unless both should accept the same standard as a criterion of stricture, and use the same methods of exploration and diagnosis. The Weir faction, with its normal points of contraction in the pendulous urethra, certainly cannot become reconciled to the teachings of Otis. I know of several excellent men with whom I have conversed, whose methods of reasoning are so widely apart that each stamps the other as an ignoramus. One begs the question by accepting the view of Otis that an urethra should take a sound of a caliber proportionate to the dimensions of the penis, and the other entirely overlooks the question at issue, by the assertion that, "that kind of strictures can be found in healthy men." I once related a case of congenital stricture in the pendulous urethra to a prominent surgeon of this city, and he asserted that the patient could not possibly have a stricture, if, as I said, he could take a thirteen English sound. I presume that there are gentlemen here to-night who would claim that a patient who can take a thirty to thirty-five French sound has no stricture. Yet a patient may take a forty French sound and the case still demand urethrotomy. Number thirty may pass smoothly an obstruction, which a number fifteen-bulb will easily demonstrate.

Believing, as I do, that any point of contraction or inelasticity in the urethra, in the presence of a pathological condition of the mucuous membrane constitutes a stricture, I can unhesitatingly assert my firm conviction that stricture of the urethra is most frequent in the pendulous portion of the canal. If care be taken to exclude the element of deep urethritmus—which exclusion is not as easy as some authors would have us believe—the proportion is, I think, at least ten to one.

That great variance of opinion exists upon this point is well known, and Bumstead and Taylor long ago called attention to the fact that there could be no harmony of results between those who studied the

subject upon the living and those whose estimates were formed entirely upon observations of the cadaver. Folet, in 1857, called attention to the frequency of fibrous stricture in the pendulous urethra, and its comparative rarity in the bulbo membranous region. This author claimed that deep obstruction existed in all cases of stricture of the spongy portion, but that the deep structure was nearly always spasmodic and secondary to the trouble in the anterior portion of the canal. In 1866, Verneuil coolly appropriated Folet's thunder and expressed essentially the same views and in very nearly the same language. Otis, writing at a later period, while not so radical as his French predecessors, has promulgated similar views, but in a much more comprehensive and thorough manner. The relation of urethrismus to reflex irritation more or less remote as shown by Otis, is one of our most important modern contributions to the literature of genito-urinary pathology, and is decidedly complimentary to the genius of American surgery.

In estimating the frequency with which deep spasmodic stricture complicates obstruction in the pendulous urethra, an important source of fallacy exists. While a deep stricture may be demonstrated, in nearly if not all cases, by instrumentation, it does not necessarily follow that such deep strictures exist at other lines. A tender urethra resents a foreign body quite as vigorously as does the eye, and as soon as the sound touches a tender spot or sensitive stricture—even of large caliber—in the pendulous urethra, a pronounced reflex contraction is observable throughout the entire canal, which is, of course, most pronounced in the deep portion. A spasm of the pendulous portion is not usually regarded as of importance; indeed, some surgeons discredit it altogether. I have found, however, that the spongy portion often contracts so firmly about the sound that it is felt to be firmly grasped during withdrawal all along the canal. This spasm in the pendulous urethra is of great assistance in diagnosis, as it serves to force diseased portions of the canal down in front of the shoulder of bulbous instruments of a caliber much smaller than the stricture will really admit. Thus it ofteu happens that a good-sized sound will pass by obstructions upon which quite small bulbs will catch.

In some cases deep spasm exists more or less constantly; but I believe that in most of these cases there is an actual organic change at the site of the spasmodic stricture; this may be true organic deposit, an erosion, or a congested and granular patch. Under such circumstances it is often very difficult to determine, even approximately, the proportionate relation of spasm to organic lesion. Oftentimes the true condition of affairs can only be determined by subtracting the sources of reflex spasm in the anterior urethra by urethrotomy.

Reflex Neuroses from Stricture.—The remote or direct nervous disturbances incidental to stricture of the urethra are too often lost sight of in the strictly mechanical aspect of the condition. The decidedly complex relations of the genito-urinary apparatus to the sympathetic nervous system should receive more attention than is usually accorded them. Our observations of the reflex neuroses from genital irritation in children are a key to the solution of many problems in the urethral pathology of the adult. There is a general impression that a stricture is of little importance unless it produces distinct symptoms of urinary obstruction. When, however, one meets with cases of vesical atony, incontinence of urine, impotency, neuralgia of the cord and testes, lumbo-hypogastric and lumbo-sacral neuralgia, profound mental depression and other neuroses entirely and almost magically relieved by urethrotomy of strictures of large caliber, the importance of this question is brought before him in a very forcible manner. The relation of such conditions to congenital or acquired stricture at or near the meatus, is especially marked. I might relate numerous interesting cases of this character, did time permit. I have found this subject alone, extensive enough for an entire paper, which I have now in preparation for the meeting of the Southern Surgical Association in November.

Toxicæmia from Stricture.—The relation of stricture to uræmia—so-called—is not a new theme. Something might be said regarding the relation of shock from surgical operations upon the urethra to toxicæmia and consequent urethra fever, but the subject is too comprehensive for discussion here.

The relation of absorption of ptomaines from the site of the lesion in stricture—or from behind it to the general results of stricture—is unquestionably of great importance. The rapidity with which many constitutional symptoms disappear after cure of deep strictures, is thus easily explained. Urethral chill, following instrumentation, is also explicable in the same way in some cases.

The possibility of mixed infection must be taken into consideration. The cases of cystitis, epididymitis, peri-urethral phlegmon, pyelo-nephritis and other special phenomena secondary to stricture, are not all dependent upon direct extension sion of inflammation, but are probably due in many cases to secondary infection. A recent case of my own is strongly suggestive in this regard. A patient whom I was treating for several irritable strictures of comparatively large caliber, developed multiple nephritic and perinephritic abscesses during the course of the treatment. An interesting point was the fact that the formation of the abscesses was heralded by great increase of irritability and spasm in the deep urethra.

The point which I desire to urge most strongly is the apparent fact that all patients with serious strictures—particularly of the deep urethra—suffer from a greater or less degree of toxæmia, and that many cases develop secondary infections of one kind or another.

That the passage of instruments may precipitate toxæmia is granted. The danger is enhanced by uncleanliness, but strictly aseptic instruments may cause trouble. It is a question, however, whether any instrument passed through a diseased anterior urethra, can be aseptic by the time it reaches the deeper portions of the canal. It is my firm conviction that strictly aseptic surgery of the urethra would demand a flushing out of the canal prior to the introduction of even an ordinary sound. This we know, is not ordinarily done, nor is it always practicable. We are, most of us, therefore, committing cardinal sins from the standpoint of aseptic surgery, as a matter of routine.

Treatment of Stricture.—The treatment of stricture of the urethra has given rise to more contention and more radically opposed views than almost any surgical disease that could be mentioned. One faction never cuts, another always cuts, and still another causes organic stricture to fade into the misty past by the use of "electrolysis" alone.

As is usually the case under such circumstances ot contention, the philosophical surgeon will occupy the middle ground. The best reply that can be made to

the extravagant claims of the urethrotomist and the still more extravagant claims of the electrolptic crank, is that, "there are strictures and strictures." To some of the so-called conservatists, it would be foolish to reply—the differentiation of strictures is a matter beyond their comprehension. They cling to the traditions of the past with a fatuity and obtuseness which an axe might possibly impress, but argument, never. There is a vast difference between judicious conservatism and the cowardice and ignorance that often masquerades as conservatism.

It will be impossible for me to discuss the subject of treatment in a comprehensive manner, in this paper, but, with your kind indulgence, I will attempt to present a few practical points.

Dilatation of Stricture.—By dilatation we mean gradual and intermittent dilatation. Continuous dilatation, excepting with soft instruments as a preliminary to gradual dilatation, is out of date.

Selection of Cases.—I believe that every soft and tractable stricture should be treated by dilatation. Even admitting that urethrotomy is, in many cases, a radical cure, it is far better, in my opinion, for a man to be enslaved to the sound for the rest of his days if by so doing he can avoid the dangers of an operation and at the same time receive satisfactory relief from his symptoms.

The majority of deep strictures will yield to dilatation, especially if all obstructions and points of friction and irritation be primarily removed from the pendulous portion of the canal. If such points exist, attempts at dilatation of the deep stricture only makes matters worse.

It has been my experience that strictures of the pendulous urethra are rarely soft and tractable. They are generally irritable and resilient, and the more they are stretched the worse they get, and the more irritable the deep urethra—which is perhaps free from local disease—becomes.

It is possible to distinguish on the first examination, as a rule, those strictures of the pendulous portion which are likely to yield to dilatation. These, unfortunately, are rare. The nearer the stricture is to the meatus the less likely is it to yield to dilatation. Points of relative inelasticity will never yield to dilatation.

Frequency of Dilatation.—My experience goes to show that the majority of surgeons dilate at too frequent intervals. Here is a prime necessity for the selection of cases. Each stricture is a law unto itself. Some cases yield best to dilatation every third day. I have seen cases in which bi-weekly operations gave the best results. Many strictures are tortured into irritability and resiliency. A few weeks rest sometimes obviates the necessity of urethrotomy. It is hardly necessary to repeat the old maxim that gentleness is the key-note of success in the treatment by dilatation.

Urethrotomy.—Dilating urethrotomy is the operation of election in the majority of strictures of the pendulous urethra. It is required many times as a preliminary to deep dilatation. It is absurd to attempt to dilate a deep stricture without cutting a narrow meatus, or other firm bands which may exist in the anterior urethra. Dilatation to be effective must be carried to the extreme limit of distensibility of the urethra. It is impossible to satisfactorily dilate a No. 35 bulbo-membranous region via a No. 30 meatus or pendulous urethra.

I have already called attention to friction as an important factor in stricture and gleet. A division of the inelastic and unyielding point is usually required for a cure. Often times an obstruction will be due to a tender patch in the urethral mucous membrane. This causes reflex contraction, and, as a consequence, the affected spot is never at rest. Urethrotomy, however, affords the required rest, and the lesion disappears. Congested and granular plaques sometimes require the same treatment, and for similar reasons there is, in addition, the indication for an alteration of nutrition at the diseased point.

Urethrotomy should always be performed under strict antiseptic precautions. Instruments require as careful boiling as in the performance of a laparotomy. The urethra should be flushed out with a 1 in 2,000 bichloride solution as a preliminary measure.

Dangers of Urethrotomy.—In spite of the optimistic views of those who operate as a matter of routine, urethrotomy is attended by some inconveniences, and possible dangers. I acknowledge this frankly, and, although in an extensive experience I have had no fatalities, I confess to several scares.

I find that the general practitioner has less respect for the dignity of the operation than some specialists. It is quite common for the surgeon to operate on stricture at his office and let the patient go about as if nothing had happened, or, at most, with two or three days confinement to the house. My opinion is that a urethrotomy properly performed is a major operation, necessitating a week's rest, at least in the majority of cases. Hemorrhage is an ever present danger.

Interference with erection and curvature of the penis are occasional results. I have seen no permanent damage of this character; but I think it occurs more often than is acknowledged by most operators. One case of my own had a double twist in the organ at the end of a year; but as he had had two operations and contracted gonorrhœa a month after the first one, and was continually drunk, his case was hardly a fair criterion.

Sepsis is usually avoidable by drawing off the urine with a soft catheter, and flushing the canal for a few days after operation.

Internal dilating urethrotomy is most applicable to the pendulous urethra. My friend, Dr. Edw. W. Palmer, of Louisville, has reported a series of cases of favorable results from deep internal section. I have followed him with half a dozen similar cases. In general, however, it is my opinion that at present external section is safest where any cutting operation is necessary in the deep urethra. A guide can usually be introduced, and the operation is then a comparatively safe one. Once in a great while a case will be met with in which a guide cannot be introduced, as in a recent case in which I performed the Wheelhouse operation, and found a good-sized calculus behind the stricture.

The rule that traumatic strictures and all strictures complicated by extensive perineal induration and fistulæ require perineal section, is a good one to follow. The same is true of cases in which dilatation is productive of sepsis and chill. I have found in several of these cases, however, that the internal use of the oil of eucalyptus seemed to be an excellent prophylactic of chill and febrile reaction. Much more might be said upon the subject of urethrotomy, but time does not permit.

Divulsion of Stricture.—This operation, formerly so popular, is falling into desuetude among progressive American surgeons. Within certain limitations, however, it is still a useful method to fall back upon. It would seem that it ought to be the operation of necessity rather than election. In cases where

time is an important consideration, divulsion is justifiable in strictures of the deep urethra; rarely, if ever, in those of the pendulous portion. In resilient strictures of large caliber, divulsion is usually impracticable.

Electrolysis.—He would be wise, indeed, who could determine the truth regarding the use of electricity in urethral stricture from the reported results which have appeared in medical literature. The changes have been rung by observers of widely different characters and degrees of credibility. The electrolytic monomaniac, the commercial electrician, the intolerant bigot, and the man who recognizes no difference between the galvanic and faradic currents, have all been heard from, with the result that many conscientious surgeons have thrown their bulbs and batteries into the dead-lumber room. It is easy to understand how Newman, the hobbyist, can claim so much for the electrolysis of stricture; it is not so easy to understand the absolute condemnation of the method by so broad and scientific a man as Keyes.

To claim such extravagant results as does the Newman school is no more absurd than to assert that the method is absolutely valueless. We must recognize the fact that the galvanic current exerts definite physiological effects upon living tissue, healthy or morbid. Knowing these effects, and knowing the conditions present in stricture, no fair-minded man can deny the probability of definite results in practice. The term electrolysis is here, it seems to me, a very unfortunate one. The method should be termed galvanism.

I do not consider it practicable, within the limits of safety, to bring the electrolytic action of the galvanic current to bear upon a urethral stricture, with the possible exception of flaps and bands which are ingrafted upon the stricture *per se*.

We have in organic stricture several factors:

1. The first and most important is a new growth of fibro-connective tissue;
2. Young cells in the process of metamorphosis into fixed connective tissue;
3. More or less œdematous infiltration;
4. Hyperæmia or congestion;
5. Spasm;
6. Flaps, bands, and bridles, due to exudate within the lumen of the canal and binding its folds together. These are often traumatic, and due to clumsy instrumentation.

Of the conditions named, only the first is essential to stricture. The other factors I will term plus conditions of stricture. These plus conditions are variable in amount and frequency, but may all be present in any given case, and may be either transitory or permanent.

When properly used, the galvanic current stimulates the circulation, stimulates the absorbents, and allays irritation and spasm. In addition we have the mechanical effect of the bulb of the electrode.

To put the case concisely, I will state my belief that galvanism, judiciously used, will often subtract the plus conditions of stricture and facilitate the penetration of otherwise surgically-impermeable strictures. Once these conditions are removed, electricity is no longer useful, and we must seek other means of relief. It may thus be seen that if these statements are true, the range of application of electricity is not wide. I do not believe it is ever curative of organic stricture, nor do I believe it is often of value in the pendulous urethra. Strictures of this portion of the canal are very likely to require urethrotomy; certain it is, to my mind, that electricity will rarely obviate the necessity for the operation. A case of deep stricture occasionally arises where electricity will relieve retention, and so facilitate subsequent dilatation, as to be invaluable, but such cases are not frequent. Surgeons may report cases of impermeable stricture in which electricity succeeded, after all else had failed, by the dozen; but there will still be those among us who believe that the man who sees so many impermeable contractions is either a paper surgeon, unworthy of belief, or his reported cases are simply impermeable to him. Impermeability of stricture upon one end of the bougie sometimes means impermeability of brain upon the other.

In thus stating what I believe to be the merits of the "electrolytic," or, more properly, the galvanic treatment of stricture, I have endeavored to present them fairly and without bias.

In conclusion, I thank the Society and its visitors for their courteous attention to what has been a necessarily superficial survey of a very broad topic in genito-urinary surgery.

URETHRAL STRICTURE.[1]

By THOMAS J. DUNOTT, M.D.,
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THE subject to which your attention is respectfully invited is the Pathology of Stricture of the Male Urethra and its Surgical Treatment. Stricture is an unnatural narrowing of any portion of the urethra. Normally it is a short canal; its walls being in apposition and dilatable by the force exercised in the ordinary effort to pass urine, any loss of this dilatability may be classified with stricture; but a true stricture can only be a consequence of pathological conditions or of injury.

Certain parts of the urethra are normally narrowed, viz.: the meatus, and the beginning of the membranous portion of the canal; but if congenitaly any part be abnormally small in diameter, and requires, in consequence, surgical treatment, practically they are strictured.

Again, when any inflammation of the walls of the urethra, or any growth under, or beneath, its mucous lining, or collection of fluid outside of the canal, limits its caliber, and thereby interferes with the free exit of urine, stricture exists as an epiphenomena; but, properly speaking, not the stricture to which I ask your attention; since the scope of this paper is limited, and deals only with the conditions which arise:

1. From organic;
2. From those strictures which develop from traumatic lesions of the urethra.

In my practice I have never met with cases of simple imflammatory swelling of the urethral tract, or of spasmodic contraction of its muscular fibers (which surround the canal), which gave rise to such a diminution in its caliber as to occasion permanently serious inconvenience to the patient. In congenital stricture mostly the meatus is narrowed, but we find on record cases in which the urachus performs the functions of the urethra, which exists only as a fibrous cord. The small meatus is a very frequent congenital defect, often associated with adherent prepuce. There are other congenital narrowings of the urethra; this can be classified with similar abnormalities of the rectum; the closed meatus urinarius being the analogue of the imperforate anus and the

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fibrous urethral cord, necessitating perineal urethral section. The associate defect is with those congenital bowel cases, in which the descending colon is shortened and the rectum a cord of fibrous tissue, and the terminal end of the bowel a *cul-de-sac*, usually situated in the right iliac region. It is not in connection with my subject to relate it, but it so happened that a case of this malformation of the bowel occurred in my practice some years ago. The patient was operated on, and is now living. Guyon, in 1865, published in Paris a history of congenital malformations of a similar character occurring in the urethra, and how to remedy them. The title of the book is: Errors in Congenital Formation of the Urethra, and How to Remedy Them.

Confining my remarks to the history of permanent stricture, the methods of its formation become of importance. It matters but little whether the stricture be the result of traumatism, or the result of acquired urethritis, the pathology of the narrowing of the canal is much the same. The older theories of excrescencies, carnosities and callosities were successfully combatted by Dionis, who, examining the urethra in many dying from the sequences of retention of urine, failed to find them; but discovered that the stricture was almost invariably the result of ulceration, dependent upon gonorrhœal contagion. The main point to be considered, therefore, is that whether the stricture be derived from specific or non-specific conditions, it depends upon an ulcerative lesion of the mucous lining of the urethral canal, and the contraction in its caliber, which comes with cicatrization. Sir Benjamin Bell, who particularly defined what we now consider the correct pathology of the subject, described the manner in which cicatrization created the stricture, viz.: by a thickening taking place at some point of the passage, or in the enveloping corpus spongiosum, exactly in the same way as in mucous membranes affected with catarrhal inflammation. These views of Bell hold good to-day, for dissection of the strictured urethra shows that the tissues involved are the mucous membrane, the sub-mucous tissues, and the spongy portion which surround them; sometimes one only, and sometimes all three. M. Desormeaux, who followed Mr. Bell in elucidating the correct pathology of stricture, considered urethritis as the first stage of inflammatory stricture; granulation occurring in the second stage; the third epoch giving us the confirmed fibrous or nodular stricture. The second stage is generally of long duration; is always associated with gleet. This chronic inflam mation in its progress destroys the mucous glands, and, as a consequence, the protecting epithelial investment of the urinary canal being partially destroyed at such points, there is no shield against the irritating urine, the epithelial cells being cast off before maturing, appearing as pus at the meatus. Cell proliferation in the meshes of the mucous membrane, and in the sub-mucous connective tissue ensuing, diminishes the diameter of the urethra in one or in several directions. This cell increase finally undergoes contraction and forms the true organic stricture. This is the modern pathology of stricture as distinguished from that of less than a century ago. To sum it up, it means that contraction is both cicatricial from ulceration, and reticular in the surrounding plastic exudate. With regard to traumatic strictures, it can only be said that the cicatricial ending is much sooner completed than in those which result from specific urethritis.

For practical purposes we must consider the various forms of distortion, which anatomical alterations of the urethra, whether traumatic or specific, may produce. Usually they are divided into three forms, viz.: linear, hour-glass and spiral. Linear stricture is a simple folding in, such as might be produced by tying a string more or less tightly drawn, around the canal. It is obvious that such obstruction may be single or multiple, centric or eccentric, and that the membranous obstacle may be transverse or oblique, in direction to the axis of the urethra. To pursue the simile, a broad string tied in a like manner, would produce the annular form, differing from the linear only in its length, which is usually about one-quarter of an inch; the tortuous or spiral variety may, on the contrary, be almost the entire length of the urethra. The amount of constriction in all types of stricture, varies from a small to nearly absolute occlusion, so that soon after death, with the stricture exposed, it is difficult to pass a bristle through the opening.

I have never met with complete closure, except where the canal had been wounded—the urine escaping through a perineal outlet—or, in cases where ulceration behind the stricture has led to numerous fistulous outlets in the same direction. In these cases, the canal remains patulous from the meatus to the strictured portion, although from the cessation of function its walls become rigid and its caliber diminished. One type of stricture is rarely mentioned, and still more rarely seen. It only occurs in old men with enlarged prostate, where the lateral lobes, pressing unduly against each other, become corroded by the ammoniacal urine, inflamed and subsequently more or less adherent, thus creating a prostate stricture. Traumatic lesions of the urethra are generally inflicted in the bulbous and membranous portions of the canal, the injury, as a rule, implicating the perineal region; when in the membranous portion of the urethra the resulting stricture is usually small in extent; its tissue being well covered, does not, as a rule, become extensively inflamed, but if the bulb be involved because of its more superficial area, the contusion gives rise to most extensive plastic infiltration, and the stricture varies in type according to the violence inflicted, and, unless carefully treated, gives most extensive cicatricial contraction. Few injuries, except gun-shot wounds, completely sever the canal. Even in the most severe injuries otherwise acquired, there is usually left a tongue of unruptured tissue along the upper wall of the urethra.

When it becomes necessary to make immediately external section through the perineum, this little strip of sound tissue preventing the retraction of the canal, gives to the surgeon a guide of great practical value; it enables him to slide a catheter, introduced into the meatus, and when aided by the finger, introduced through the bisected perineum, pressing upon its beak, directly through the prostatic part into the bladder.

Previously I have said that no complete occlusion of the urethra occurs as a result of stricture. This assertion does not apply to traumatic stricture resulting from severing of the canal—then the penile portion may be completely closed—if it be neglected, the vesical portion delivers the urine through the opening in the perineum, made either by the wounding by the surgeon, or as the secondary result of sloughing consequent upon extravasation of urine in the perineal spaces. Under such circumstances, the vesical end of the urethra is always strictured. The successful surgical management of these complications cannot be conducted unless the surgeon has a full knowledge of their pathology, their formative

conditions and their varieties. He must also have a full acquaintance with the various surgical devices and instruments, which seem to have accumulated because of the failure of many to accomplish the purpose of the designer. Then the educated touch is essential. Dr. Gouley's remarks, which suggest this, are felicitious. He says that the surgeon should handle the urethra "as the child does the soap-bubble he does not wish to break."

The surgical treatment of stricture embraces the measures which combat both its incipient and complete cicatricial history. Excluding traumatic, nearly all are specific. I may remark here that the introduction of sounds or bougies, while a creamy discharge issues from the meatus—which is then puffy and red—may be responsible for the deeper residue which follow. Whether injections administered under similar circumstances are deleterious in the same way, is a question; probably they rarely reach the locality they are intended to medicate. A germicide, introduced to the pus area of the canal, is unquestionably the proper remedy. Yet it seems to be the case that the efficient application, unless it be undertaken by one thoroughly competent, amounts to but little in curing urethritis. The usual surgical methods employed in treating stricture are three in number, viz.:

1. Cauterization;
2. Dilatation;
3. Section, either internal or external.

Practically, cauterization is abandoned at this date, unless it be that electrolysis be considered as cauterization. Our knowledge of the beneficial effect of dilatation is derived from the older surgeons. In their endeavors to relieve the dysuria, associated with stricture, they introduced bougies to make pressure upon the callosities, so called, which they in this manner proposed to destroy, frequently aiding the pressure with caustic potassa, and other escharotics, in this manner really dilating the canal. In 1724, the principle of the method began to be appreciated, and, finally, Hunter formulated to a greater extent than any of his predecessors the anatomical changes connected with stricture, and explained the beneficial action of bougies. Later the methods of Hunter led to the analysis of the symptoms which arose from the retention of bougies in the urethral canal. Practically they are foreign bodies, in contact with a mucous membrane, which produce in it a series of reactions. First, an irritation associated with contraction and spasm of adjacent muscular fibers, followed by relaxation and toleration of the introduced instrument. The sequel phenomena are a flow of pus, and still more relaxation from absorption of effused and cicatricial deposits. The muco-purulent discharge being established, is the sign that a much larger instrument can be introduced, demonstrating that the exudate material is changed in its anatomical condition; that it wastes, and that the repetition of the waste can be maintained by the use of sounds of gradually increasing diameter, until the urethra is dilated to its original caliber. We may call this method pathological dilatation, in contradistinction to mechanical dilatation. When this latter surgical procedure is undertaken, the walls of the urethra are rent, the intention being to create a dilatable opening in the canal when the rupture is repaired, or, rather, while it is being repaired. In simple cases these operations are easily performed, and a judicious surgeon will soon dismiss the patient, relieved from severe and protracted suffering. But occasionally the urethra is so sensitive and the patient so nervous and apprehensive of mischievous results, that the introduction of any instrument may produce serious collapse and even death, especially if an overdistended bladder be emptied completely after a successful operation.

Frequently a congenital contraction of the meatus interferes greatly with the diagnosis of stricture, by preventing the insertion of bulb-sounds, or dilating and cutting instruments. In such cases a sufficient division of the meatus must be made; it should be large enough to admit a full-sized steel sound. What we do at the meatus we do in the deeper parts of the urethra in performing the operation known as internal urethrotomy—the section made being increased either by an expanding instrument, or the subsequent use of sounds of increasing diameter. The two urethrotomes I have mostly used are those known as Gouley's, and Otis's; a mere glance at the latter will demonstrate, more forcibly than language conveys, the idea of what is demanded for the successful management of stricture. Other instruments are required to locate strictures. They are known as bulb sounds. I prefer the flexible bougie, its conical end square at the shoulder. The size of the bulb corresponding to that of the normal meatus, it is introduced, and, bearing in mind the points of resistance found in the normal urethra, passed in towards the bladder. Muscular contraction may arrest the bulb at any point, but with gentle pressure it passes the obstruction. It may be stopped at the triangular ligament. Manipulation and patience clears this point, or, if Otis's bulb is used, tilting the shaft upward will do it. At the membranous portion of the canal, muscular contraction again occurs; gentle pressure overcomes it, and the bulb glides into the bladder. After this exploration we are not sure that stricture is absent, if, in withdrawing the bulb, ridgy contractions are felt; but if the largest bulb passes through a meatus of normal size and can be passed into the bladder, and is withdrawn without evident signs of contraction, then we can be almost certain that no stricture exists.

Dr. F. N. Otis adds, that the diagnosis is incomplete unless, the endoscope being used, ocular inspection discloses that no paling of the membrane, loss of its flexibility or condensation of its tissue is manifest. Dr. Otis has constructed a table, which is said to give very nearly the relative proportion of the urethra and penis circumference. This table of relative size is useful in enabling the surgeon, with some degree of confidence, to select a bulb bougie of the proper dimension to make the exploration. As the outcome of many experiments Dr. Otis claims that the urethra varies in caliber in different persons, and that generally the canal is wider than it is believed to be. The relationship between its circumference and that of the flaccid penis is about 1x3½. So that in a penis of 3 inches circumference the urethra would be 30 millimeters.

The normal length of the urethra is eight to nine inches. The membranous portion is its narrowest part, excepting the meatus. The spongy portion is about six inches in length, extending from the meatus to the membranous portion. There are in it two expansions: one in the glans, and one in the bulb. The membranous part lies between the termination of the spongy and the beginning of the prostatic part of the canal. With this latter portion we have little to do in the management of stricture, for it never occurs except as a result of enlarged prostate, associated with ulceration, as has been previously mentioned. These measurements become important, for the reason that strictures of large caliber are quoted by nearly all leading specialists as being the cause of gleet, dysuria, impotence, and varied sexual dis-

orders. Strictures of large size are measured by bulb sounds, which, increasing one-third of a mm., and beginning at one-third mm., afford the means of accurate location, if muscular spasm be absent. In strictures of the pendulous portion of the urethra, it is nearly always possible, after having introduced a filiform guide, to dilate with tunneled sounds until a cutting urethrotome can be guided to the stricture, which is then divided from before backward. Surgeons seem to be of one opinion with regard to the management of strictures where they are in advance of the bulbous portion of the urethra; but with regard to those which are more deeply seated there is a diversity of opinion. Personally, I believe that with due skill and patience, aided by properly-constructed instruments, that the worst types of organic stricture can be as successfully treated by internal urethrotomy and subsequent dilatation, as well as by external urethrotomy and dilatation. Dilatation is a *sine qua non*, no matter which be done. Granulation tissue will always contract. The preference for the external section seems to be derived from the fear of hemorrhage, which sometimes complicates the internal section, and the immediate results which accrue to both patient and surgeon. Yet I know of cases where almost fatal bleeding followed the external operation, filling the bladder and requiring the most energetic means to save the life of the patient.

I believe that deep cutting should not be done in the bulbo-membranous portion of the urethra from within, and, because of its less vascularity, that the roof of the canal should be selected in making the cut. I also believe that wherever a filiform whalebone guide can be introduced into the bladder (and almost invariably it can, if any urine can be passed through the meatus) that a combined cutting and dilating operation is always feasible, and will give as good results as can possibly be obtained by external urethrotomy. When the attempt to introduce the filiform fails (and failure may occur more than once), and the need is pressing, I prefer to aspirate the bladder.

This operation, if proper antiseptic precautions are taken, is always safe, and gives immediate relief to the patient. After aspiration, on the following day, filiform will, even if the opening be eccentric, pass through. Tunneled sounds—from 4 to 8 French—follow. No. 4 French is not more than three times the size of the filiform, and, ordinarily, it will slide past the obstacle without difficulty; but if the stricture be tortuous, with surrounding gristly exudation in the perineum, a very considerable amount of pressure can safely be used. The internal section, when made with an instrument so constructed that the operator is certain of its position and the amount of cutting surface exposed, is safe, and never followed by serious bleeding.

The subsequent treatment becomes easy if the precaution is taken of using the filiform, until a 15 French steel sound can be introduced readily.

In confirmation of my views, I ask permission to quote the result of this method by presenting the history of three cases:

CASE I.—Captain G. H. Cole; impassable urethral stricture, complicated with calculus. Nine years ago was subjected to perineal section, on account of an impassable urethral stricture.

For three weeks previous to this, daily attempts had been made to introduce instruments. He recovered well, but in course of a few years he noticed that the caliber of the urinal stream was diminishing.

He paid no attention to this until the urethra was almost impassable again. About six months ago it was dilated, with much trouble, sufficiently to admit No. 6. Since then nothing has been done, as he failed to present himself at appointed times.

Now the urethra is almost closed, and abscesses have formed and opened, so that urine escapes at five points, one being immediately behind the scrotum. He urinates about once an hour, the act causing intense pain for a few minutes. General condition very poor. Patient was placed on table, and after an hour of patient and persistent effort, I succeeded in introducing a whalebone guide. Sounds No. 1 to 6 were passed; three sounds to No. 10 were introduced as far as the prostate gland. The whole operation lasted one hour and thirty-five minutes. After operation, in spite of the precautions, he had a chill, followed by high fever. Slightly delirious at times; complained of severe pain, which was relieved by morphine. Urine escaped about once an hour through the natural channel, the other openings diminished in size. Urine very albuminous. Diet composed largely of milk and beef-tea and broth. Pain still continued; ordered suppositories of opium, belladonna and morphine when needed. Albumen becomes less, and also pain. Took no opiate since the morning of November 15th. Digitalis and quin. lessened one-half. Man felt quite well.

On November 22, operated again. Succeeded in passing a filiform with comparative ease, and by dilating urethra more and more finally introduced a No. 12 into bladder. Same precautions were taken here, as before, to prevent chill. Time, one hour. Considerable pain followed operation; relieved as before. Has had no chill or fever. Urine passed freely, though with some pain and straining. Urine contains considerable blood, plenty of mucus, no pus. Sp. gr. 1.018, alterative, somewhat turbid. Stream passed freely. At times, flow suddenly stopped, as in stone, but is probably due to mucus. Sounded for stone, but found none.

On December 3, again passed sound, beginning at No. 10; but failed with everything else. Felt too ill to persevere. After this, temperature was up to 103°. Urine contained much blood.

December 5, abscess again forming on dorsum of penis.

On December 17, by means of whalebone guides, bougies and sounds in dilating the urethra to No. 15. Operation lasted thirty-five minutes.

December 18, has re-acted very well. Still passed slight amount of blood. Only a trace of mucus, with no pus.

On December 20, passed sounds, from 10 to 20 inclusive, without trouble. After this, bladder washed out by means of Bigelow's apparatus, and about six grains of sandy substance was removed. Operation lasted twenty minutes, and after it about an ounce of blood was passed, this being the first time any considerable amount of hemorrhage occurred.

December 24, doing well. Got out of bed. Retains urine five or six hours, and passes it in full stream. Clear. Stopped all remedies on 26, except quinine, iron, and inf. triticum repens.

December 30, still improving. He is up a part of each day. Urine slightly turbid, but passed readily. Acid reaction. Sp. gr. 1,030.

On January 3, 1880, sounds, 13 to 17, were passed inclusive. Bromide of ethyl being used (ʒij) on napkin, instead of ether. Operation concluded in nine minutes. A small amount of hemorrhage ensued from penis.

January 5, 1880, feeling well; urinates with no trouble, and was discharged cured.

CASE II.—Nathaniel Brady, age fifty-six years; black; married; admitted to Harrisburg Hospital with perineal abscess and urethral calculus.

History.—About one year ago, November, 1882, experienced difficulty in urination; very soon a fistulous opening appeared in the perineum, through which nearly all the urine escaped; had gonorrhœa twenty years before, with a history of stricture following. Upon examination of the urethra a urethral calculus was diagnosed; a filiform bougie was introduced, after which sounds were introduced up to a No. 3, French scale, which was arrested. Passed water frequently, but not much at a time; under use of diuretics and tonics his urine passed much easier, and through the natural channel after having a filiform passed for some days. Discharged improved January 10, 1884.

Re-admitted September 17, 1884. Perineal fistula still closed; but has difficult urination, passing a very small stream; nothing but a filiform could again be introduced into the bladder; was again put upon tonic and diuretic treatment. After a few days pus again began to escape from the old perineal fistula. This was healed under appropriate treatment, and his general health restored; the urine passed in a much freer and larger stream. *Discharged again October 31, 1884.* No instrument but a filiform having passed into the bladder.

Re admitted April 20, 1886. Fistula again open and discharging considerably; entrance gained to bladder with filiform with difficulty.

April 25, sounds passed to No. 9, American.

May 13, abscess of perineum and scrotum ruptured; large amount of pus evacuated.

May 23, passes water quite freely; no pain.

June 8, several sounds passed; highest No. 14, American.

June 17, several sounds passed again; highest No. 15, American. Patient was discharged cured June 6, 1886.

On returning to dispensary some time afterward a No. 18 American sound was passed.

CASE III.—Age fifty, multiple stricture of urethra and retention of urine, forty-eight hours duration. Patient gives history of stricture for twenty years, and during this time has always had some trouble in passing his urine. If he would take cold the trouble would increase. Has been tapped two or three times, but does not remember the dates. Came to hospital suffering from above condition. After frequent attempts to pass filiforms had failed, a urethrotome was introduced, and several strictures, about four inches from meatus, were divided. Again an attempt was made to introduce a filiform into bladder, and this time with good results. Over this a Gouley's tunneled catheter was tried over the filiform, but failed. A puncture (supra pubic) was made, and urine drawn off by an aspirator. Was then put to bed, and about half an hour later had a very slight chill; was given quinine sulph. gr. x, and tr. digitalis gtt. x four times a day. During night passed 32 ounces urine with little pain.

On May 13, made frequent attempts to pass urine, but little was voided. During following night, made attempts to void urine every fifteen minutes, and in the twenty-four hours passed about 32 ounces again, containing pus in large quantities. A second attempt was made to pass a filiform, but failed. Put to bed and rested well all night. No pain unless attempting to urinate.

May 15, passed about 35 ounces in the twenty-four hours. The amount of pus in urine has lessened.

May 18, 1889, has suffered from retention of urine. Given ⅛ gr. morphine sulph. Pain continued. Made frequent attempts to pass urine during night, but failed. Later in night fell asleep, and at this time about a pint of urine dribbled away. During morning was able to pass urine more freely, and was easier between attempts than had been.

About 1 P. M. May 19, 1889, a filiform was passed into bladder, and then a No. 1 Gouley tunneled catheter was introduced, and bladder emptied. Urethra was then dilated up to 18 sound.

May 22, 1889, has continued to improve each day; passed urine with little pain, and average quantity. No pain while attempting to void urine.

May 24, 1889. Slept well last night without hypnotic, and seemed comfortable.

May 25, up and dressed. At 2.30 passed filiform, and then drew off urine with silver catheter, after which a No. 17 sound was introduced, followed by a No. 18. There is still a stricture about three-quarters of an inch from meatus, which prevented passing a No. 19. Temperature and pulse normal.

May 29, doing well. Passed urine without trouble, and in small quantities. Appetite good.

May 30, suffering from balanitis, so could not cut anterior stricture.

On June 7, 1889, anterior stricture was divided, and then sounds were passed, beginning with No. 17 and increasing to No. 24. Gave quinine gr. x. About 7.30 P. M. had a slight chill, followed by pain in lumbar region, nausea and vomiting, which lasted until morning of 8th. Urine contained blood, but improved, and was able to pass urine without difficulty, 40 ounces in twenty-four hours.

June 10, urine contains no blood, and is normal in quantity. Passed a No. 24 French sound. Continued passing sounds until June 10, 1889, when patient was sent home cured.

THE CATALYTIC ACTION OF GALVANISM.

BY WILLIAM R. D. BLACKWOOD, M.D.,
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THAT energetic action is set up at the points of polar application when galvanism is used, and that this action is very different in its nature, as instanced at the applying electrodes, is well known to all who handle electricity in medical matters. Just what action goes on in the inter-polar tract is not so well understood—in fact, we don't understand it at all, in my opinion; but we can theorize about it, and that is not to be deprecated in electro-therapeutics any more than theorizing might be tabooed in respect to the action of drugs on the economy; neither is it more culpable to do this than it is to theorize about physiological processes, or the "how" or "why" of pathological expression. There is a good deal of pure theory in all departments of medicine, anyhow, and a little more won't harm, when we take into account the fact that most electrical treatment, as it occurs now, is largely empirical in its nature.

Beard and Rockwell have brought into prominence the very useful methods of "general" and "central" galvanization, and the like, as used in faradism. Now, anyone who handles much nervous disease, and who avails himself of the wonderful property of electricity to alleviate such suffering as is probably incurable, and to cure those who may be restored to health, must have noticed the peculiar virtue of electricity to aid him in the management of these cases

far beyond what he could get from drugs alone, and this notably so when either or both of the methods alluded to were employed. As there may have been no actual lesion in the path of the current as applied, but, nevertheless, the patient got well, how did the electricity do the work? We cannot answer this conundrum, but it is proper to say (I believe) that a *catalytic* action occurred. The boy may not have the birch actually applied to his gluteus (that's where they did it in my schoolboy days), or to the elective point, as the pedagogue may prefer; neither does the manganese give up its oxygen when associated with the potassic chlorate in making this gas which supports combustion so energetically; but more work is got out of the boy and the potassium under the presence of the birch and the permanganate. The action is a catalytic one. Might this not be so with electricity also? I think it is the case, and I explain the action on that hypothesis when asked what occurs. I know that this is not a new idea, but many physicians appear not to know that such a theory is entertained; hence a few words will not come amiss on this subject.

One answer to how electricity acts in building up broken-down people, is to say that it increases or modifies nutrition. This is so. But it is not only increase of nutrition that we want—we must have the depurative function kept up to par always, else we get clogged capillaries, engorged lymphatic trunks, stasis in the emunctories of all kinds. Now electricity hastens retrograde metamorphosis, also, if it is used properly, and it is by knowing how to take advantage of this property that we are able to do with the current what cannot be accomplished with drugs alone. In a case now in my hands of false anchylosis (pronounced true anchylosis by several distinguished men, one of whom insisted on amputation of the thigh as necessary to save life), the joint has gone down in circumference somewhat over eight inches, and motion is in the neighborhood of two thirds that normally present in the other knee, which had not been diseased. No amount of anti rheumatic medicine, given by his former physicians, did the man any service during eighteen months; but the galvanism has, in my hands, in six weeks, enabled him to walk comfortably with crutches at first, then with one crutch and a cane, and now with a cane alone. Here the explanation must be that of catalytic action, together with the stimulation of the absorbents to take up dead matter mechanically, obstructing the joint movement, and, in addition, acting as an irritant to the inflamed bones and synovial membranes. Electricity in itself won't soften bony tumors; it will not reduce the so called "ivory exostosis" in the few cases where I had a chance to try it; it will, however, aid the natural tendency to absorption of temporary bone swellings, such as the callus thrown out around a fracture. Several times I have seen a slow disappearance of the callus undoubtedly hastened by the constant current. Here again we must, I think, set this action down to catalysis. It is not a question of nutrition at all. So, also, in fibroids; we get the electro chemical causty at the negative, and consequent destruction of the mass; but the amount lost by actual breaking down is very insignificant when compared with the whole bulk of the tumor. Still, in properly-selected cases under precise treatment, these patients get rid of either all or a large part of their tumor, and they are symptomatically cured—a good thing for them when the furore for indiscriminate spaying hedges them about with a wall of danger more to be feared than the malady sought to be rid of. There must be something behind the caustic work of the pole, hard to define accurately, and our natural enemies (the laparotomists) take occasion to sneer when we acknowledge our inability to tell what the current really does. They say: "We have the specimen to show after a section—it is gone!" So they do; and, moreover, they frequently have the opportunity to secure other specimens than the tumor at the sectio-cadaveris! On the side of the electro-therapeutist, we can reply: "Yes, I know that is so; although we can't show the specimen, she is free from all trouble, and that is equivalent to a cure. If you don't know that you are sick, there is nothing to worry about. She is cured just as much as if we did have the tumor in a bottle."

In many nervous affections I employ static electricity after a dose of galvanism, for its general tonic effect, in the form of the secondary induced current—the so called "electric wind" being most frequently used. It has occurred to me at times that there might be something analogous in the results of static applications to those gotten through cataphoresis (or the galvanic endosmosis). Knowing the great amount of ozone given off during the working of the apparatus, is it improbable that some of this nascent oxygen is driven through the derm, and thus some of the otherwise unexplainable good results attained?

Whilst on this subject, I wish to enforce on those who are about to obtain an electric plant, the necessity of getting a good one; one which will be up to all requirements; one not constantly in the repair shop, and one which is thoroughly to be depended on. The static machines of Messrs. Waite & Bartlett, of New York, are by far the best obtainable, and their galvanic batteries, both stable and portable, are unexcelled. In faradism their apparatus presents the advantages of *differential coils*, and when physicians discover the fact through experience that results are to be had with this method of induction not to be gotten otherwise, they will, if the interests of their patients are properly looked after, use none other. Applying electrodes are best made of silver plates, or pure block tin, either of which are flexible and not easily tarnished, and these covered with absorbent cotton, are cleanly, and not capable of carrying dermic disorders to those who apply for relief from other troubles, and who are abundantly satisfied with what afflicts them already.

At a future time some other thoughts on the subject of catalytic effects in electrical medicine will be taken up, this paper having already transgressed its intended limits.

246 NORTH TWENTIETH STREET.

The Polyclinic.

CHILDREN'S HOSPITAL.

DR. MEIGS brought before the class a child twenty-three months old, suffering from diarrhœa, with greenish, slimy stools, incident upon teething, to whom he gave the following prescription:

R.—Acidi sulphurici dil..... gtt. xij.
Morphinæ sulph.....gr. ¼.
Spir. vini gallici.....ʒss.
Syr. zingib.....ʒss.
Aquæ..... q. s. ad ʒiij.
M.—Sig. ʒj. every three hours.

The diarrhœa had lasted two weeks. Had it occurred during the warm weather, Dr. Meigs said it might have been attended with serious results.

MEDICO-CHIRURGICAL HOSPITAL.

IN the course of healing of an ulcer in the stomach, nerves may become involved in the cicatrix, which, in its contractions, causes pain. These painful cicatrices are very difficult to diagnosticate from malignant diseases. The points of distinction are that they do not increase in severity, but decrease in the course of time, and are unattended by tumor or by evidences of constitutional involvement or cachexia.—*Woodbury.*

L. J. RHEA (*Med. Brief*) mentions a case in which diphtheria appeared to be contracted from some rags that had been taken, nine years previously, from a house where malignant diphtheria prevailed at that time.

SPECIFIC MEDICATION.—Xanthoxylum is indicated in languid and atonic states of the digestive organs, accompanied with flatulence and spasmodic pain in the stomach and bowels.

Berberis aquifolium is a tonic of efficacy in chronic diseases characterized by tumid and profusely secreting mucous membranes, weakness and catarrhal conditions of the respiratory tract, especially the upper air-passages.

There is a functional disease of the heart characterized by palpitation, shortness of breath on slight exertion, a sudden feeling of emptiness in the cardiac region, and an unpleasant irritability of the entire nervous system, which is called the "tobacco heart." It is caused by the excessive use of tobacco. Of course, the first measure for the relief of this condition is to desist from the use of the weed, after which cactus, in 5-drop doses, will speedily complete the cure.

Urticaria is relieved by bathing the parts in a mild solution of acetic acid or vinegar.

One of the best remedies for sprains is the application of hot water, as hot as can be borne, repeated frequently. The addition of chloride of sodium to the water is beneficial.

A 4 per cent. solution of mur. cocaine, rubbed on the gums of teething children, will allay pain and irritation, relieve the diarrhœa, and avert a threatened spasm.

Euphorbia pil. is recommended in hay fever attended with shortness of breathing, sneezing, and suffusion of the eyes. Dose, 30 drops every four hours.

In the treatment of ingrown nail, good results have followed the use of salicylic acid. The flesh which has grown over and upon the nail can be removed by the application of a mixture of two drachms of salicylic acid to one ounce of vaseline. This must be applied daily. Before re-applying the ointment each day, it will be necessary to remove a portion of the overgrown flesh, which comes off easily and without pain. In a few days it will thus be entirely destroyed; also, at the same time, and daily, put a small pledget of absorbent cotton under the ingrown nail. The nail must *not* be cut or trimmed. It may require a considerable time to bring about a cure in this way, but relief is permanent. This method of treatment has succeeded in the writer's practice where many other plans, including ablation, have failed.

—*Eclectic Med. Jour.*

MERCURY HYPODERMICALLY FOR SYPHILIS.—I don't wish to infer that all cases should be treated hypodermically, but certain cases demand it and should be so treated, these being chosen according to the symptoms presented, and which I have tried to class under the following heads, which has been my guide in treating syphilis:

I. In all cases where the most rapid effect of the drug is desired;

II. When, by some unexplainable cause, mercury by the mouth disagrees with the patient;

III. When it becomes necessary to discontinue either drug for a time on account of salivation or iodism.

Under the first head can be classed: involvement of eyes, brain, bones, osteocopic or periostal pains, ulcerations of mucuous surfaces, eruptions of the face, dactylitis, etc.

Second. Where mercury, internally, causes diarrhœa (which occasionally occurs by the smallest doses), pains in the abdomen, tenderness of the groins without salivation, etc.

Third. Where salivation occurs, and by stopping the mercury the iodide has to be stopped at the same time, and vice-versa. In a case cited, the treatment was as follows:

℞.—Hydrargyri chlorid. corros..... gr. iij.
Ammonii chlor..... gr. jss.
Aquæ dest..... ℥ss.
M.—Sig. Fifteen to twenty drops every other day.

℞.—Syr. ferri iodid..... ℥j.
Potassii iodid..... ℥iij.
Syr. trifolii..... ad ℥iv.
M.—Sig. One drachm three times a day.

This treatment was continued for sixteen days, the patient being free from itching and the drawing sensation on the fifth day, and at date of writing, he was discharged, his eruption having entirely disappeared. Before discharging him I put him on the pill hydrarg. prot-iod., gr. one-sixth, to be continued for four or five months.

—Dowd, *Buffalo Med. and Surg. Jour.*

LANOLINE.—Lanoline or wool-fat being a cholesterine fat, a true product of keratinous tissues, it is but natural to expect it to possess those qualities absolutely necessary for an excellent ointment basis.

It possesses a specific gravity of about 0.935, while its melting point fluctuates between 104.4° and 104° F. It is soluble in ether, benzol, benzine, chloroform and disulphide of carbon, slightly in strong alcohol and insoluble in water.

It is unoxidizable, non-irritant and neutral in reaction. It is readily absorbed and retained by the skin, increasing the therapeutic action of the drugs incorporated. It will readily imbibe more than its own weight of an aqueous solution without losing its pliability or salve-like form. It adheres better to a moist surface than any other fat or oil. It facilitates union with glycerine, and is easily miscible with all other fats and oils. It is germ-tight, irreducible and hermetically sealed to microörganisms.

Moreover, its shortcomings are few and not grave, being merely charged of having a consistency slightly sticky, and a faint, sheep-like odor.

It occurs in the shops in two forms, one containing about twenty-five per cent. of water, the other free from it. The anhydrous lanoline, in my judgment, makes the much better preparation, for the addition of water might irritate in some instances, and whenever it becomes necessary to incorporate water, or an aqueous solution, it can be readily added at any time. To overcome the slight stickiness, I generally combine with it ten to twenty per cent. of vaseline.

—Wende, *Buffalo Med. and Surg. Jour.*

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THE PHYSICIAN AS A BUSINESS MAN.

DR. JOHN J. TAYLOR has written a little book on this subject. The object, we are told, is to suggest to physicians how they may obtain the best financial results in the practice of medicine. He takes for his text the words of the great Teacher: "The laborer is worthy of his hire," and proceeds to preach a sermon that every physician in the land ought to be compelled to listen to.

The present condition of affairs needs but little comment. Very few physicians exhibit much common sense in regard to their business affairs. Of all the case-books published for them, there is one only that can be presented in a court of law as legal evidence of a claim for services. And how many of our 80,000 physicians employ this one legal case-book? It is doubtful if any other vocation shows an equal amount of carelessness.

As to ledgers, the majority make no use of them, and when called into court to prove a claim, what helpless creatures they are! Many physicians are unable to make out a bill without the assistance of the patient. "Too much trouble to keep a regular set of books," they tell us. But when they are shown what a trifling amount of work is really required by the use of some specially designed books, like those of Bernd, for instance, it is a genuine surprise to them. The greatest difficulty is in getting the physician to look at them at all; when he has done so he is almost certain to become a purchaser. The truth is that there is something in the professional life that renders accounting distasteful. How degrading it seems to get one's services down to a basis of dollars and cents. Here is the life of a mother, saved to her brood of little ones. How much is she worth? Here is a child safely carried through a battle with diphtheria; and with the mother's heartfelt "God bless you, doctor," warming the cockles of your heart, you are to sit down and enter up the cash value of the transaction. Come to think of it, we haven't much regard for the doctor who is a good business man.

In this great world, inhabited by countless millions of human beings, most of them sheep and the rest wolves, the doctor occupies pretty fairly the position of the dog. He looks after the weakly members of the flock and endeavors to protect them from the consequences of their own folly, ignorance, stupidity. For this he gets a stray bone. Now, while this is all very well, the ugly question persists in obtruding itself: "Can we afford it? There is but one possible answer. The medical profession is bankrupt; it could not settle to-day for fifty cents on the dollar; it is harassed and distracted for want of means; it dies and leaves its family penniless. So it has done, and so it will continue to do, until the millennium comes, when selfishness will cease to be the first pre-requisite to success in life. We do not look for a radical change in the doctor. He is ingrained in his evil ways, and will never leave them. But we do ask for a little reform; only in these points:

1. That he shall buy Dr. Taylor's little book and read it through from beginning to end.

2. That he shall see for himself how very little trouble his accounts will be if he provides himself with the books specially designed to save him trouble.

3. That if he finds his part of the world has a surplus of general practitioners, he shall open his eyes to see how many specialties are in crying need of workers.

We are not above learning a lesson, even from Keeley; witness the number of sanatoria for alcoholics being opened by regular physicians. But can it be credited that there is not one man in Philadelphia who practises on rectal affections exclusively?

Annotations.

THE Philadelphia Dispensary for Skin Diseases has issued its final report, having decided to wind up. The reasons for this step are the resignation of Dr. Stelwagon and the organization of dermatological departments in many of the public dispensaries, etc. During the twenty years of its existence, the dispensary treated 8,323 cases, at a cost of $11,179 23. The treasurer reports a balance on hand of $820.24, which is to be disposed of for some purpose connected with the charitable treatment of diseases of the skin, if this can be done legally.

THE *Texas Sanitarian* states that the population of Austin is 28,612. In the city proper there were 247 deaths during 1891, including 28 still births. Deducting these, the average annual death-rate was only 7.18 per 1,000. But of the 219 deaths, 41 were of consumptives, who are said to have come to the city in search of health when well advanced in the disease. Eliminating these, and also the deaths by accident, our contemporary claims that Austin would have "no death rate to speak of." Could the "accidents" and still-births be explained satisfactory, the question of longevity would be easily solved. It would only be essential to reside in Austin, Texas, to live forever.

THE following letter has been received at this office :

"*Manager Advertising Department.*

"DEAR SIR :—You may be the means, under Providence, of doing great good by leading some of the heirs to the many rich, unclaimed estates and other fortunes on this side of the Atlantic, into the enjoyment of their rights, by the publication of the attached advertisement in your valued journal.

"Please publish it for three months, at your usual rates, and send in your bill when half that time has elapsed. As an inducement to you to give the ad. a conspicuous position and suitable editorial notice, I hereby agree to pay you five hundred dollars, in United States money, if any person, having read the attached advertisement in your journal, shall gain any estate or fortune through my efforts ; and this shall be your voucher for the agreement.

Most respectfully yours,

——— ———"

A BILLION AND HALF.

The above is estimated to be the amount due to heirs of unclaimed estates in England, Ireland, Scotland, Wales, France and Germany. The heirs are supposed to be chiefly in the United States, descendants of people who crossed the ocean years ago. You who read this are earnestly requested to correspond with the undersigned, if your people came from across the sea. Remember that a letter to this country requires a five cent stamp. Be sure to write your name and address plainly. Also send 25 cents to pay for postage and correspondence. We charge nothing for investigating.

We are reluctantly compelled to decline the tempting offer of our English correspondent, out of tender consideration for his pocket. We have conscientious scruples against taking a man's money when we know we can give him nothing in return for it, and we firmly believe there is not a reader of the TIMES AND REGISTER who is gullible enough to swallow the statements in the proposed advertisement, or to send his money to these people.

The scheme is a very pretty one. As out of 65,000,000 inhabitants of America, perhaps one half can claim descent from Victoria's domains, the field for possible correspondence is apparently large. And this means fees for searches into mythical titles, cloud-land heritages, etc., etc., and, altogether, the scheme to supply briefless English lawyers with American dollars is very pretty. But our people are intensely practical, and prefer to invest in something that offers a better prospect of return, such as short-term orders or Gloucester races. English heritages are too uncertain.

Book Notices.

THE SUPREME PASSIONS OF MAN; OR THE ORIGIN, CAUSES AND TENDENCIES OF THE PASSIONS OF THE FLESH. By PAUL PAQUIN, M.D. Setting forth the Results of Scientific Inquiries into the Appetites of Mankind, and the Passions which they excite. A Study of the Crimes of the Flesh, and the Efforts of Christianity to Maintain Purity. An Essay on the True Causes of Drunkenness, and the only Way to Prevent this evil. Observations on the Relation of Vice to the Laws of Nations, and Existing Educational Systems. Battle Creek, Mich. : The Little Blue Book Co., 1891.

The author claims that sexual precocity, and the passions of the body generally, are excited by the undue use of rich food. There is, however, not much attempt at a rational demonstration of the truth of this theory ; the book resembling rather the exaggerated lucubrations of the vegetarian, the anti-vaccinationist, the temperance fanatic, *et id omne genus*. For all that, Dr. Paul Paquin is no fool ; and his book contains much that is well worth reading and thinking about, for that there is some truth in his theories is quite probable, and their consideration is likely to be beneficial.

A PRACTICAL TREATISE ON DISEASES OF THE EAR. By D. B. ST. JOHN ROOSA, M.D., LL.D. Pp. 724-741. New York : Wm. Wood & Co., 1891.

This is the seventh edition of a work already known so well, to not only specialists in otology, but to the general profession as to need but little introduction in a review. Notwithstanding the excellence of its preceding editions, it has been thoroughly rewritten—new illustrations added, and many points, new to those not expert, introduced. No text-book will take the place of this very excellent volume to him who aspires to be capable of managing a department in practice at once difficult and yet interesting when mastered. W. R. D. BLACKWOOD.

The Medical Digest.

CRANIAL AUSCULTATION IN CASES OF VERTIGO AND NOISES IN THE HEAD.

For some years past it has been a practice with me to carry out what may be called cranial auscultation in cases of vertigo with or without singing noises in the ear or in the cranium. I was led to the practice by a case in which a cardiac murmur was distinctly traceable, by the stethoscope, along the carotids up to the temporal bone, the patient himself being conscious of the murmur at all times, but particularly when his head rested against a solid substance, or even a semi-solid substance like a pillow. Afterwards another patient visited me complaining of nothing more than noise in the head, so loud, he said, that he wondered other people near to him did not hear it. I applied the stethoscope to the cranium on the side where he said the noise was most distinctly heard, and there I could hear it as clearly as he himself—a loud and painfully whizzing sound in almost continuous note. To him the sound was continuous, owing probably to the fact that it was, so to speak, closer to him than to me ; to my ear it was not quite continuous, but broken by the stroke of the heart. In this instance, however, there was no murmur along the blood vessels either arterial or venous, and no cardiac murmur whatever. The patient came to me from my late friend, Dr. Thomas Gray, of Essex Road, and after being under our treatment for a few weeks he went into one of the hospitals, where we lost sight of him, and I am unable to report how his symptoms terminated. In this instance there was no vertigo, but the persistency of the noise made life miserable, rendered sleep difficult, and led to dreams of the strangest and most distressful character.

There was under my observation for several years Mrs. D., a middle-aged lady, very stout and tall, who had to work industriously at a sedentary occupation. She was naturally of an active nature and happy disposition, and being very provident, had no cause for mental depression. Rather rapidly, soon after she had passed the grand climacteric, she became extremely anæmic, and applied to me on that account—for an increasing paleness alarmed her—but chiefly for a continuous and distressing noise in

the head on the left side, which gave her no rest by night or by day. On auscultation there was audible from the heart a soft anæmic murmur connected with the first sound, and not traceable along the arteries. In the jugular veins there was a distinct venous murmur, greatly increased, as is usual, under the pressure of the edge of the stethoscope; and, from the cranium over the mastoid, on the left side, and extending over the squamous portion of the temporal, a murmur identical with that described by the patient was most clearly distinguishable. This murmur was influenced in a certain manner by various actions and conditions. When the patient was in the recumbent position it was reduced in quality of tone and intensity; in the erect position of the body it was louder; after brisk walking, and shortly after taking alcohol, it was much intensified and almost continuous, in all of which phases it followed the state of the circulation. The continued and increasing force of this murmur drove the sufferer almost to despair; she consulted everyone of whom she was told, qualified or unqualified, under the common idea that where things are so bad that nothing can be worse every chance of relief, however ridiculous, should be tried. In the end relief came of itself, and life has been rendered more tolerable; but, at times, there is still recurrence of the attack in a modified degree.

I have had quite recently under observation, a distinguished American brother suffering fron a continuous murmur in the left ear. In his case the murmur is never absent in waking hours, and is attended now and then with vertigo, but never with vomiting. The presence of the murmur renders the hearing confused on the left side; but there is really no deafness, in the strict sense of that word, and Sir William Dalby, who has also been consulted, reports the external and middle ear healthy in this gentleman. Here, again, the murmur is distinctly audible. On physical examination I found a faint aortic murmur, which could at times be followed in the course of the carotids, and which was audible on cranial auscultation over the mastoid process. In this position it was a continuous murmur while it lasted—*i. e.*, not pulsative; but occasionally it ceased objectively altogether, though subjectively it remained.

My case-books would supply other examples like the above, but these are sufficient for the purposes I have in view of indicating, in the first place, a very useful line of practice in cranial auscultation; in the second place, of correcting the rather common error of seizing too rashly as a cause for noises in the head, with or without vertigo, the idea of a labyrinthine origin, and of classifying all cases of the kind, in a general and unsatisfactory manner, under the head of "Meniere's disease."

DISTINCTION BETWEEN ARTERIAL CRANIAL MURMURS AND LABYRINTHINE DISEASE, WITH NOTE ON TREATMENT.

The patients referred to above had been pronounced sufferers from labyrinthine disease. They were really all sufferers from arterial changes. The noises they heard, and which can be objectively reached, were arterial murmurs. In those instances where there was a cardiac murmur the murmur was carried along the arteries. In the example where the intense murmur could be detected, over different portions of the cranium, there was, probably, aneurism of a vessel on the left side of the circle of Willis. In the other instances the murmur was probably caused by the friction of blood through the artery in the carotid canal. By passing a small india-rubber tube through the carotid canal of a skull, and injecting a column of fluid, in pulsation, through it, I found it easy to induce a murmur under different conditions of tension and pressure, and when we remember the position of the canal, how near it is to the labyrinth, and what good conducting substance is at hand, one is rather inclined to wonder that a pulsating noise is not more frequently heard. A little roughness of the artery on its inner surface, an undue thinness of blood, an undue tension of the vessel in the restricted canal, must be causes, at times, of murmur.

The study of this subject has its practical meanings in the matter of treatment. I am quite sure that when the murmur or noise of which the patient complains can be objectively detected, it is very bad practice to tease the ear or the throat with injections of water or air, or in any way to irritate the outer or middle ear. Many practictioners are of opinion that when there is mischief in the labyrinth local interference is best avoided, and the view seems, *a priori*, common sense itself. I have not sufficient clinical knowledge of such cases to enable me to speak on the point with any authority, but I can speak on the forms of vascular affection which come under cranial auscultation. In these instances local treatment is, as a rule, worse than useless. But there are different lines of rational treatment, according to the systemic condition, that are of eminent service: in anæmia, iron and purgatives; in specific cases, an iodide or hydrogen peroxide with iron; in all cases, when the pulsation is severe, a sedative—the best formula for which, up to the present time, is:—dilute hydrobromic acid, *fifteen* minims to *twenty*; infusion of digitalis, *half a fluid ounce*; and distilled water to make up an ounce and a half for the dose.

TRANSFUSION IN COLLAPSE.

Some able communications by Messrs. Arbuthnot Lane and Francis Heatherley, in the *Lancet* of September last, recalled to mind some of my early observations and experiences on the effect of saline solutions injected into the venous circulation in states of collapse. The phenomena of temporary resuscitation following upon such injection are amongst the most remarkable on record. In a case of Asiatic cholera treated by the late Mr. Henry Ancell, Dr Rose Cormack, and myself, a woman of middle-age sank in the collapse into complete insensibility. In this case we injected through a vein in the arm two pints of a saline solution, after Stevens' original plan, with the astounding effect that the patient became quite conscious, sat up in bed, dictated a short will, and signed it in proper form. An hour later, the purging having returned, we repeated the injection with the same phenomena of resuscitation, and, at my suggestion, the injecting needle was left in the vein, with the syringe at the other end of injecting tube filled with saline solution, and placed in a hand-basin of water kept at blood heat, so that a current of injection could be persistently maintained. I had assumed it possible that the circulation might in this way be sustained with the blood in motion, but the trial showed the singular fact, that there was no rallying effect at all from the injection so long as the current was pushed gently. When, however, we forced on the solution so strongly as to put the vessels into tension, the signs of reanimation returned. They returned, with decreasing activity, no fewer than six times, but were always followed by

the choleraic discharge and collapse, so that death closed the scene about thirteen hours after the first injection. In my experiments on resuscitation by injection of heated water into the arteries of dead lower animals, I observed the same necessity of vascular tension for producing symptoms of reanimation.

SALINE BLOOD FOR TRANSFUSION.

From the fact that the harpooned whale may sometimes live for long periods after profuse loss of blood, owing to the introduction of the saline sea water into its circulation, I thought it possible that the injection of a saline solution might be effective in sustaining life after loss of blood; and more than once I witnessed in the lower animals apparent reanimation from what seemed actual death. But this only occurred when there was still some remaining circulation, and when some blood was left in the veins with which the saline substance could admix. From whence I drew the conclusion that the saline did its useful work, not by any sustaining power of its own, but by its action in mixing with and forcing blood, still in the vessels, onward in its course. I tried thereupon to produce an artificial saline fluid, like blood itself, that would convey the proper elements and would oxidize in the pulmonary circuit. In this direction I made one good advance. I discovered that if fresh venous blood were added to a saline solution sufficiently charged with proper saline substance to sustain the even fluidity of the blood, such solution, warmed up to natural blood heat, was the best of all injections for restoring the phenomena of life; and I suggested that blood added to a saline solution might be dried down so as to be kept in sealed bottles, ready for use in transfusion. I believe now it would be most practical to add freshly drawn venous blood to the saline solution at the time it is wanted. A saline solution, consisting of forty grains of chloride of sodium and twenty grains of phosphate of soda in a pint of distilled water, should take up and hold, in even solution at blood temperature, ten fluid-ounces of fresh venous blood, if the blood, as it flows from the vein, be caught in the solution whilst cold and be gently stirred into it with a clean glass rod. This, I conceive, would be the best of all fluids for venous transfusion in the collapse of cholera and hæmorrhage, in both of which emptiness of the circulatory cavities is one cause of the collapse. In extreme chloroform or methylene collapse, where no blood is lost, a portion of the saline solution alone, with the addition to it of five minims of strong solution of ammonia, or a fluid drachm of the aromatic spirit of ammonia, to twenty fluid-ounces of it, would be a good venous injection in conjunction with artificial respiration.

—B. W. Richardson, in *The Asclepiad.*

J. W. MIRES (*Med. Brief*) states, that in dressing a wound, where an artery had been severed, he mixed powdered nitrate of silver and iodoform together, and poured the powder into the wound. The moment the mixture touched the moist wound it ignited, blazing up about twelve inches. The patient stated that it was entirely painless. Dr. M. suggests that as a painless cautery this might be useful in many cases.

REPORTS OF CASES.—*Blepher Spasm.*—Dr. Dickenson recently had a case of simple blepher spasm confined to the lids, but accompanied with pain. In this case he used cocaine instilled into the palpebral opening, and with complete success. The cocaine controlled it completely, but only temporarily at first; prolonged the intervals of freedom from three or five minutes to five hours. The spasm returned, but by continuous use, the gentleman was enabled to return home, quite free from the trouble. The speaker had not heard from the patient, but through a friend he heard he had entirely recovered. Some years since, the speaker had another case of blepher spasm which was of a tonic character; without the least appreciable provocation, the lids would forcibly close, and so remain for half an hour, or even longer, defying all active attempts to open the lids; but gentle manipulation, stroking the closed lids, proved to be effective.

Brain Abscess.—Dr. Funkhouser had treated a very interesting case—a classical one, in which the patient had ear disease, caries of the temporal bone and metastatic abscesses, etc. No syringe had been used for some months prior to his attendance; a physician of this city had treated him for ear disease, but had made no injections; but had made applications to the bone. When he saw the case, the patient complained of pain in the head, but no pain in the ear; the case simulated one of malaria; there was a periodicity of the fever, and after the first chill the speaker suspected ear trouble, as to the cause of the symptoms. In about seven days after the first chill, the patient had a second one, and finally had symptoms of metastatic complications; inflammation of the knee joint; this was subsequently opened and syringed out. This patient eventually died of pyemia, but before his death, symptoms of implication of the dura mater of the brain supervened. He thought syringing very rarely caused cephalic trouble. The speaker witnessed the post mortem in another case in which no injections had been used; that patient died, having a temperature of 111½, from abscess of the tempero-sphenoidal lobe, and connected with the ear.

Almost all these cases of abscesses of the brain in connection with the ear, he believed, are the result of inflammation extending from the ear.

La Grippe.—Dr. Fry said that we were constantly having accessions to the knowledge of la grippe. He had seen a number of cases in which there was a myelitis, which, in some cases, was very acute—very severe and extensive. He had never seen a case in which there was a tendency to suppuration; although, in some cases, the inflammation was quite circumscribed. In one of the first cases of la grippe he saw last year, there was an inflammation of the calf of the leg, manifested by a spherical knot like an orange. It projected from the muscle and looked pretty angry, but it did not develop into a suppurative condition. A week after its subsidence, a similar swelling appeared in the calf of the other leg, but more diffuse, involving all the muscles of the calf, to some degree.

Among statistics, in his possession, mention was made of the occurence of multiple abscesses. The patient died, and abscesses were found in the liver; and it was the author's opinion that it was due to the "grippe." Of course, in cases of this kind, it was very necessary to exclude every possible source of infection.

Peculiar Treatment of Otalgia.—Dr. Barclay stated that a case came under his care which showed the resources to which a man in desperation from ear disease may resort. A man living in the country, was attacked with acute otitis media, in both ears; consulted a practitioner there; he gave him an aperient and ordered him to take large doses of quinine. When he was told that the patient's suffering was increased, he said the man did not take large enough doses,

and directed that he should take teaspoonful doses. The man, suffering intense agony, deprived of sleep for two nights, went out to the well, and from a bucket of the coldest water, he took a dipperful, and poured the water first into one ear and then into the other. This he continued for several hours at a time, for two nights and a day, when finally he came to the city and related his experience. The cold water relieved the pain until it became warm in his ear, but gave rise to abscess of the ear, which involved the bone.

Syphilis as a Cause of Aneurism.—Dr. Bremer said that the question of syphilis was always the one that was uppermost in the mind of the inquirer after truth in such cases. He believed that there was almost no case of diverticulism of the heart, as it was formerly called—of aneurism which could not be traced to syphilis—not a well authenticated case. In most cases, syphilis certainly was the cause, either heriditary or acquired. He had known one case of heriditary syphilis in which the individual died from aneurism of the aorta; that is the only case he had met with in his own practice. No poison circulated in the human body; nor was there any factor that told to such a degree and with such an intensity upon the vessels, as does syphilis; and next to syphilis comes alcohol. The syphilitic lesion was very frequently confined to the muscular layer of the vessels. The muscular layer was infiltrated, and, in consequence, there was a shrinkage of the muscle fibers; there being no resisting power, no elasticity, the blood pressure would have the effect of pushing out and dilating the connective tissue membrane, which had been formed in place of the muscular membrane. In that way, miliary aneurisms, when they occurred in the brain, proved very frequently fatal. In the same way the larger aneurisms were formed. It was true that traumatisms were sometimes the cause of aneurisms, traumatisms which may not be noticed; but the so called idiopathic aneurisms, were probably all due to syphilitic infection, which, in a great many instances, was a matter unknown to the patients themselves.—*St. Louis Courier of Medicine.*

Spermine in Surgical Diseases.—Brown-Séquard's discovery last year, of what was jocosely termed the elixir of life, excited amusement rather than scientific interest, and after a short period of notoriety the remedy was allowed to lapse into oblivion. In Russia, however, a number of distinguished chemists and medical men have been engaged during the past year in investigating the therapeutic possibilities of this remedy, and the results of their labors are published in the *Berliner Klinische Wochenschrift.* Professor Poehl, of St. Petersburg, has extracted from the testicular fluid of the sheep an alkaloid named spermine, the physiological effects of which are the same in kind as those of Brown Séquard's elixir, but less powerful. The experiments of Schreiner, Poehl and Tarchanoff showed that spermine has no direct effect upon the genital organs, but that it acts as a general tonic and stimulant. Unlike the testicular fluid, it may be injected without producing irritation or dangerous effects. Shicharew successfully employed this alkaloid in the treatment of neurasthenia, anæmia and paresis. Of surgical interest are the investigations of Dr. Weljaminoff. Having found that subcutaneous injections of spermine were devoid of danger, he concluded to avail himself of its stimulant and tonic properties in cases where he was obliged to administer chloroform to anæmia and weak persons, and also before the performance of protracted and severe operations. In order to judge the more distinctly of its effects, he used it only on greatly debilitated persons. One of the cases reported was that of a woman twenty-nine years of age, who suffered from a fibroma of the fundus and a cancer of the cervix uteri. The patient was markedly anæmic from the frequent profuse hemorrhages, but after several subcutaneous injections of spermine, her condition was so much improved that a vaginal hysterectomy could be performed with success, convalescence taking place promptly.

To judge from the author's experience this alkaloid seems to possess marked restorative properties, and if his investigations are confirmed by other observers, Brown-Séquard's discovery will have served to add another valuable remedy to our therapeutic resources.

—*Internat. Jour. Surgery.*

Gangrene from Carbolic Acid.—The patient, aged thirty-eight, a hostler, had injured the index finger of the left hand some days previously, and used a strong carbolic wash which he obtained at a drug store. When he came to the dispensary there was a patch of dry gangrene on the dorsum of his index finger, extending from the nail to the middle of the second phalanx, and a small patch about one-half inch long on the adjacent side of the middle finger The skin around these gangrenous places was reddened and œdematous. On incising these gangrenous areas the sensation imparted was as if cutting through leather. At one spot the slough extended to the bone. The wounds were dressed with a wet bichloride dressing.

—*Internat. Jour. Surgery.*

Treatment of Syphilis.—Nothing has been more certainly demonstrated in medicine than the power of mercury over the virus of syphilis. As soon as a positive diagnosis of the disease has been made the drug should be administered for a period of two years. The use of tobacco and alcohol should not be allowed, and patients should keep early hours, and live on a nutritious diet.

Of the preparations of mercury preference should be given to the protoiodide, and it is best administered in the form of pills of one-quarter of a grain each, three times a day after meals. If diarrhœa results from its use, it will be advisable to give about a quarter of a grain of opium with each pill.

A quarter of a grain of the protoiodide will usually be sufficient for the first month, and at the expiration of that time this amount may be increased to one grain. It will be seldom necessary to give over this amount.

The use of mercury should be continued for the first six months uninterruptedly, at the expiration of which time it will be found well to discontinue the protoiodide for a period of a few weeks, and then administer the iodide of potassium in doses of from ten to twenty grains three times a day for a month. This should be stopped, and the mercury again given for a period of two months or so, alternating these two drugs to the end of the first year. For the first six months of the second year the alternation should be equal, giving the mercurial for one month and then the iodide for the same period of time, and so on.

In addition to this, tonic treatment should also be resorted to, such as the preparations of iron, quinine and strychnine, the emulsion of cod-liver oil, with the hypophosphites of lime and soda, etc.

If, for any reason, it may be deemed necessary to give inunctions of mercury, they may be employed in the following manner:

Take a teaspoonful of mercurial ointment and rub it well into the skin of the groin or under the arms; or spread the ointment on a piece of lint and apply it to these parts, holding it in position by bandages. The inunctions should be used only at night, and the ointment removed in the morning, by washing the parts with warm water and soap.

—Wyeth, *Internat. Jour. Surgery.*

THE RELATION OF DIABETES TO CHANGES IN THE FEMALE SEXUAL ORGANS.—Strojnowski, of Lvow, states that twelve years since, Dr. Strojnowski made observations to determine what influence diabetes had on the female sexual organs, and the impulse to these investigations was given by the following case: In 1879, a peasant woman, 30 years old, came to him, who had been married twelve years. She had had four regular confinements, and for four years had neither confinement nor abortion. Examination showed bad nutrition, atrophy of the uterus, and diabetes. Not finding any mention in medical literature of this subject, he was about to publish the case, but Hoffmayer anticipated him by publishing a case in which atrophy of the testicles in a man appeared under the influence of diabetes, and by analogy, concluding that in women atrophy of the ovaries might be occasioned. Dr. Strojnowski has observed eleven cases. He places them in three categories: (1) with arrest of menstruation, atrophy of the ovaries and uterus occurred; (2) it developed after some menstrual period; (3) it had existed a long time and atrophy followed in consequence, therefore diabetes occasions premature arrest of menstruation as well as atrophy of the uterus and ovaries. He points out the diagnostic value of these facts that, meeting with atrophy of the uterus, we may be led to suspect diabetes where we did not suppose it to be present. The dietetic treatment of diabetes and Karlsbad water act advantageously on the sexual organs.

—*Satellite.*

PRACTICAL POINTS.—*Endocarditis and Valvular Lesions.*—I have found, during the last four years, that the iodide of sodium, in 2 or 3-grain doses, removes cardiac valvular lesions in a remarkable manner. I give it with carbonate of ammonia, and with or without digitalis, in 5 to 10-minim doses; and in recent or acute cases I blister or paint with strong iodine the præcordial region during the administration. Forty cases cured. I give digitalis if the pulse rate is at all increased beyond the normal.

The Treatment of Pneumonia and Bronchitis.—Iron is, in my opinion, of paramount importance. Deficient aëration leads to deficient fibrination of blood and increases the danger of effusion. Effusion, indeed, is the cause of death, not extension of inflammatory action. The cyanosis and abundant secretion testify in this direction. "Capillary bronchitis" thus becomes a misnomer. It is "bronchitis with effusion." Pneumonia, with the supervention of bronchial symptoms and abundant secretion, and named "broncho-pneumonia," is, in fact, "pneumonia with effusion." In these pathological conditions it is that iron is of such signal service. With the first signs of their onset, I drench the system with full and frequently repeated doses of the perchloride, and omit every drug that has any effect in preventing coagulation of blood, such as ammonia and soda compounds. The effect is rapid and good; expectoration rapidly diminishes, and soon stops almost entirely. When the pulse is very rapid I give from 5 to 10-minim doses of digitalis with the iron; but more care is required with this drug in bronchial than pneumonic cases, as in these there is greater debility of the heart, and consequently greater susceptibility to the action of a drug so powerfully depressant as digitalis. In all cases it should be omitted when the pulse has fallen to 60. Indeed, with a very feeble pulse, belladonna should be given in its stead. It is in the inflammatory chest disorders of the aged and the drunken that the iron treatment is most frequently indicated. The compatibility of acetate of ammonia with iron is an indication of the advisability of employing that drug as a diaphoretic in beginning treatment.

The Treatment of Asthma.—I divide cases into acute and chronic. In the *former*, marked by the most severe and urgent symptoms, I give carbonate of ammonia (5 grains), iodide of sodium (2 grains), tincture of belladonna (10 minims), and medium doses of aloës every hour or two. I also prescribe a 10-grain powder of antifebrin to be taken first. Asthma being, pathologically considered, a venous stasis in the bronchial tract, the ammonia, antifebrin, and sodic iodide flush the veins by their fibrin-solvent and liquefying action; the ammonia and belladonna stimulate the heart and dilate the peripheral capillaries; and the aloës act as a derivative of the blood current toward the intestines and away from the bronchial tract.

In the *chronic* form, marked by much less urgency, and generally accompanied by a degree of chronic bronchitis, I find astringent iron preparations, with full doses of belladonna, answer well.

Nitrate of Silver Applications in Catarrhal Croup.—In 2 cases, recently initiated by the intense congestion of the laryngeal mucous membrane of commencing measles, and in which suffocation seemed imminent I saved life by the application of a 30-grain-to-the-ounce solution of nitrate of silver, applied by means of a large laryngeal brush. The astringent action evidently widened the glottis. This is the third time I have proved the efficacy of this remedy, and I think all will admit that it is a less severe one than either intubation or tracheotomy. In the second of the cases named above, the eschar formed by the nitrate lay across the lumen of the glottis for four hours, and the dyspnœa and cyanosis, with the child's frantic struggles for breath, were most painful to witness. Suddenly, and with a cough, all the symptoms became less marked, the breathing was quiet and unaccompanied by stridor, the struggles ceased, and the child fell into a peaceful slumber.

A Case of Hydrops Bronchialis.—On December 19, 1890, I was called to a man of seventy, at 3 A. M. It was bitterly cold. He had retired to rest on the previous evening perfectly well. He awoke at two o'clock with dyspnœa and abundant watery, frothy expectoration of pale mucus. Pulse feeble; extremities cold; loud râles heard without the steshoscope. Cyanosis most marked. To all appearances the patient was moribund, or nearly so. I ordered belladonna, 10 minims, and perchloride of iron tincture, 20 minims, every fifteen mlnutes, and an ounce of whisky, with hot water, every two hours. In twelve hours the disease had left him, great relief being experienced after two or three doses, which were then given less often.

Treatment of Flatulent Colic.—In flatulent colic due to venous stasis, from cardiac debility, in the intestinal tract, and analogous, therefore, to asthma and

migraine, I find full doses of ammonia and belladonna good treatment. The injection *per anum* of half a pint of warm water, in which 2 drachms of powdered carbonate of ammonia have been dissolved, very effectually relieves the pain, as a rule.

Delayed Abortion, with Rigid Os and Cervix.—In these cases, and others where Barnes's bags are indicated, I have a preference for the use of bougies of pliable material, anointed well with an antiseptic, boldly pushed up to the hilt and kept in position by a bandage-plug. This method, generally known as the "Edinburgh method of inducing abortion," deserves, I think, to be more extensively used, because of its perfect safety (provided, of course, that antiseptic precautions are thoroughly taken). I always use an ointment of the biniodide of mercury in iodide of sodium solution, of the strength of 1 in 1,000, followed, on the completion of the abortion, by douches of warm 1 in 2,000 solution for about two days.

Treatment of Puerperal Eclampsia.—The retention of excretory matter in the blood, the excess of water, and the diminution of red corpuscles, all point to the advisability of avoiding, in treatment, the administration of remedies which impair or prevent the formation of firbrin. Chief among such agents stands the latest group of antipyretics, with antipyrine at their head; others are the compounds of ammonia, soda, and potash. One and all should be avoided. I have trusted to venesection and chlorofom for the actual convulsion, and then to rapidly-acting hydragogue cathartics, like jalap, and full and frequent doses of spirits of nitrous ether, with the double object of exciting diuresis and dilating the peripheral capillary circulation for the relief of the cerebral congestion.

Surgical Dressings.—My practice is to use the sodic iodide solution of mercury biniodide (1 in 2,000) for all amputation flaps and recent wounds. I find union secured more firmly and rapidly than with carbolic acid dressings. I attribute the firm and rapid union to the solution and removal of the two layers of effused fibrin, on the flat surfaces, by the fibrin-solvent sodic-iodide vehicle for the antiseptic agent. It has the advantage of being non irritant, and it is rapidly eliminated by the kidneys. There is, hence, no risk of mercurial poisoning, whether employed for medical, surgical, or obstetric purposes.

The Biniodide of Mercury in Dermatology —Rodent Ulcer.—I find the biniodide of mercury, dissolved in iodide of sodium, of the strength of 1 in 4 or 6, an absolute cure. I have treated 4 cases, one of thirteen years' and another of six years' standing. Four applications, at intervals of four days, were sufficient. I am about to treat in the same manner a case of lupus of the nose, in which both scraping and tuberculin injections have failed to do any good.

Alopecia Areata.—I have cured several cases of alopecia areata with biniodide of mercury in sodic iodide, by applying the strong solution (1 in 6 or 8) to the bald patches, and giving a solution of 1 in 500, to be applied, after washing the head, nightly to the whole scalp.

Ringworm.—This affection is curable with one application of the biniodide of full strength—1 in 4 of sodium iodide.

Burns and Scalds.—In place of Carron oil, I find an antiseptic and soothing liniment in equal parts of a saturated solution of borax and either linseed or olive-oil. When all sloughs have separated, and the fearful pain from exposed nerve-filaments sets in, I find carbolized zinc ointment the best application, with the use of cocaine (4 per cent.) or pure carbolic acid to the most painful parts.

Corneal Ulcers and Conjunctivitis.—In corneal ulcers and conjunctivitis of an acute nature and catarrhal origin, I find a lotion composed of saturated solution of borax (half ounce) and half a drachm of tincture of belladonna, dropped frequently into the eyes, a very successful plan of treatment. The borax prevents blood stasis, and the belladonna diminishes the lumen of the dilated blood-vessels.

—From C. R. Illingworth's report, in the Satellite.

On the Mixed Infection, With Particular Regard to Typhoid Fever.[1]—A paper on this subject was read by Dr. Dunin, of Warsaw. By mixed infection the author understands the state when the disease is dependent on the presence of two different kinds of bacterium. The relation of these bacteria to each other must be such that either one produces the pathological process and the other gives rise to its complication, or both are necessary for the development of the disease. This whole question is at present known almost entirely from clinical studies, and we have, therefore, no clear idea of the relation existing between the bacteria occasioning the mixed infection. The pathological factors in these cases are most likely:

1. A weakness of the organism, permitting the invasion of the other bacteria;

2. The opening of new avenues of invasion, as, for instance, ulcers of intestines, lung cavities, etc.;

3 It seems, however, that the so called "symbiose" also take place—*i. e.*, that one bacterium, by its biological process, creates new conditions, permitting the development and action of another bacterium.

The latter idea finds its confirmation in the works of Roger, Mass., and others, who found that by injecting into an animal two kinds of bacteria, each of which in itself is harmless, death is produced (as, for instance, micrococcus prodigiosus and vibrio septique). The diseases in which mixed infection occurs most often are typhus abdominalis, tuberculosis, scarlatina, and small pox. It is a very important circumstance that always two kinds of bacteria (pneumococci and pyococci) are the cause of mixed infection. The mixed infections deserve also our attention in regard to their therapy, as it would be very important if, by waging war with two sorts of bacteria, the mixed infection might be changed into the simple.

(As Robert Koch remarked, at the International Medical Congress, in Berlin, "Therapy has not gained any practical results in the war with bacteria, and, I believe, it is doubtful whether, in this way, any positive results will be attained. More attention should be drawn to the ground on which bacteria develop than the bacteria themselves." Cor. Ed.)

—Satellite.

SUCCINATE OF IRON.—All other preparations of iron undergo marked chemical change in the stomach, but their assimilation is thereby in no way enhanced. Indeed, their sole value appears to be through an action (mechanical) similar to that of the cellulose of starch food—one of assistance to digestion merely, while themselves non assimilable and practically inert. This has been repeatedly proved by physiologists, who have again and again recovered all the iron, ingested by the mouth, from the excretions. Hence, other preparations derive their ther-

[1] From the Congress of Polish Physicians at Krakow, July 17 to 21, 1891, from the Report of the Congress, published by *Nowing Lekarskie*, September, 1891.

apeutic value from their chemical organization—the combination with acids or alkalies.

In fact, the absorptive and assimilative power of the economy as regards iron is limited, though the elixir succinate is capable of being taken up in far greater proportions than in any other preparation.

Other and special advantages of iron succinate are :

It is neither astringent nor styptic.

Instead of promoting constipation, it has a tendency, under all circumstances, to a laxative, or, rather, aperient effect.

Aside from a general tonic action, it is a decided hepatic and pancreatic stimulent, increasing the flow of the secretions from these two great organs, because :

Iron succinate contains more *appropriable oxygen, in a nascent state than any other available therapeutic agent*, nitric acid perhaps excepted—but the oxygen of NO_3 is too easily taken up where it is not wanted, whereas the oxygen in succinate of iron is only appropriated when required, and if not needed, is not appropriated at all.

For this reason, in all cases of liver trouble where nitric and hydrochloric acids are usually prescribed, the succinate will be found far more efficacious. Hence, also, of all ferruginous preparations, the succinate is the best for malarial cachexia, or other conditions where the blood globules are diminished or need rehabilitation. Likewise, if desired, it may be employed in febrile conditions regardless of the pyrexia present.

Iron succinate is of special value in the treatment of gall stone, more particularly in the prevention thereof. This is due to the fact that cholesterine contains only a small amount of oxygen—from 1½ to 2 per cent., which is less than that of almost any known substance. It is, therefore, rational to suppose that a highly oxygenized compound will secure the best results. Thus this preparation (deservedly) possesses a high reputation, not only as a preventative of gall stone, but as a remedy for cholestric diathesis, being in this respect immeasurably superior to Carlsbad salts, Marienberg waters, the Salzburg Springs, etc.; and it possesses the advantage that it may be taken indefinitely without disturbance to digestion, appetite, or in any way militating against the welfare of the economy.

The combination of per-oxide of iron with succinic acid, both of which are extremely rich in oxygen, secures the greatest amount possible of the latter.

In leuco phlegmatic subjects, where there is a tendency to redundance of fatty tissue, and where there is reason to suspect a deposit of the great disorganizer, cholesteri: fat, may be forming about the heart and arteries, or in other structures, it is simply invaluable ; hence, it may often be prescribed with decided advantage for persons having a tendency to obesity, and thus save the adoption of a rigid (and often injurious) system of diet; thus in a certain class of cases it constitutes a veritable "anti-fat."

In the iron succinate is had, *already prepared*, an immediately available antidote in arsenial poisoning.

The dose is from *one* to *two* teaspoonfuls, thrice daily, a half hour after meals. Should this dose result in excessive blackening of the fæces, it is evidence that more iron is being ingested than the economy is capable of assimilating; in such cases the dose should be reduced until assimilation is perfect; then slowly, but gradually, increased.

In my own practice, I find its delicacy and agreeable taste makes it exceptionally useful in the diseases of infants and children. Every practitioner finds it difficult to prescribe a tonic for sensitive children which they are able to take with some hope of benefit and which is not so nauseating as to make its prescription a punishment. But we have in the succinate a preparation which, up to the present time, has been greatly needed, but never provided. Its valuable properties in this department alone will be fully appreciated. The next indication for its use is in anæmia and chlorosis of young women. Its convenience, agreeable taste, and positive chalybeate value, make it peculiarly useful in the treatment of a large class of our patients. Anæmia is becoming a fearfully common complaint, not only in its milder forms, but in the more serious conditions. Unquestionably so far as medicines are concerned, iron stands first and foremost in our list of remedies for this disease. But heretofore the difficulties of obtaining a reliable and agreeable preparation have been very great. The succinate is also useful in many forms of skin disease. I am using it at present in a case of chronic eczema where almost the entire epidermis of the body is involved, and where such a preparation as the succinate is the only one I can employ successfully. In such a case, it is valuable for its hepatic and pancreatic action. One is able to use this remedy in the treatment of anæmic women during the period of gestation. We will find it valuable in the treatment of the anæmia of epileptics, where it can be prescribed when other preparations of iron cannot be used at all. I am now trying its effects in a case of enlarged tonsils, and, so far, with very favorable results. In scrofula it is exceptionally useful, and also as a tonic in rheumatism. Its gentleness and readiness of assimilation make it likewise the very best tonic in consumption.

Combined with syrup trifolium compound, the succinate of iron will be found without a rival in the treatment of rheumatism and the various forms of syphilis. For the anæmia of chronic malarial poisoning, it is also useful. In the treatment of erysipelas it will be found more convenient than any other preparation of iron. In pulmonary hemorrhage, hemorrhage of the bowels, and in other intestinal disorders, and especially in chronic diarrhœa the succinate is indicated. In diphtheria and scarlet fever it will be found convenient and reliable, and can be given freely as a tonic in the convalesence of diseases of children and adults.

When, from any cause, the system has become run down and deficient in strength, succinate of iron will prove invaluable in imparting tone to the system, improving the digestion, increasing the appetite and in enhancing the functions of assimilation and blood-making, and in controlling abnormal nervous action. It is the remedy *par excellence* for the commonest of all American disorders — "neurasthenia."

There is but one word of caution in the exhibition of this remedy, and that is to begin with a small dose. In our own experience, a half-drachm is in many cases sufficient for an adult dose at the commencement of treatment, gradually increasing until one or two teaspoonfuls can be taken.

—W. Thornton Parker, *Med. Age.*

FORMULÆ FROM "THE PRESCRIPTION."—

Uremia :

℞.—Acid. benzoic..... gr. xx.
Syrup. tolutani ..... ℥ j.

M.—Sig. To be given every third hour, largely diluted with water.

Benzoic acid has the effect of preventing the accumulation of the urinary salts in the blood, and thus exercising a favorable influence over the course of the disease. Warm bathing is also advised, and if the patient is very weak, a vapor bath may be given him in bed by means of hot bricks wrapped in wet towels, and an efficient purge.

Neuralgia :

℞.—Aconitiæ..... gr. iv.
Veratriæ ..... gr. xv.
Glycerinæ..... ʒij.
Cerati ..... ʒvj.
M.—Sig. To be rubbed over the skin ; care should be taken to see that there is no abrasion of the skin.

Among the many local applications, I have found this one best adapted for general use.

Acute Bronchitis :

℞.—Vini ipecacuanhæ..... ʒij
Liq. potassii cit..... ℥iv.
Tinct. opii camphorat .....
Syrup acaciæ..... .....āā ʒj.
M.—Sig. A teaspoonful thrice daily in the first state of ordinary bronchitis.

This union of the sedative effects of the opium with the excito secretory action of the ipecac on the congested mucous membrane, has been found very serviceable.

Chronic Interstitial Nephritis :

℞.—Tr. ferri chloridi..... ♏ x.
Syrup. limonis..... ♏ j.
Aqnæ ..... ʒiij.
M.—Sig. To be taken thrice daily in a wineglassful of water

—J. A. Da Costa, M.D.

Aphonia.—Place a flat sponge electrode at back of neck, and laryngeal electrode upon glottis, following down the tongue closely. With fine, smooth faradic current of moderate (such as is easily born) strength, make and break circuit half a dozen times rapidly. Repeat two or three times, and excentric cases are usually cured.

Nervous Dyspepsia.—Central galvanization—nape of neck to epigastrium, six milliampères descending twenty minutes every other day. On alternate days, strong faradization, all applications to be understood as painless, with broad, flat electrodes under back and over stomach, form recumbent, for thirty minutes. Continue ten days.

Sexual Insufficiency, Male.—Slow beats of faradism, twenty to minute, moderate strength, from broad sponge electrode under sacrum, to sponge held over pubis, alternating latter with Hutchinson's penis electrode. Daily treatment of ten minutes, continued until erections are firm. Usually slow.

Sciatica.—Pour a drachm of Magendie's solution upon small sponge electrode, negative, positive pole at indifferent point. Press charged sponge firmly over sciatic nerve at exit and gradually run pressure up to 15 milliampères or more, if well borne, for ten minutes. Cataphoresis of the sedative will have occurred, and together with the current, will cure.

Epileptiform Convulsions.—Seat patient on flat sponge electrode, negative, and apply positive, with seven or eight milliampères, up and down the spinal column until skin is well reddened. Repeat fifteen-minute sittings daily for one month, then suspend for two weeks, and resume. Treatment takes six months.

—.W F. Hutchinson, M.D.

Treatment of Uric Acid Diathesis.—The dietary and hygienic part of the treatment is of the first importance. In the class of cases which suffers more or less periodically, and who eat heartily, as a rule, the amount of nitrogenous food should be limited, and sweets and pastries interdicted. Perhaps a mixed diet, or one largely composed of fresh vegetables and fruits, is most suited. Patient should be urged to drink water freely for a time. An abundance of good air and out-door exercise is scarcely of secondary importance. Dr. Haig, I think it is, claims he can produce or prevent a headache due to an accumulation of uric acid by the regulation of an albuminous diet. As to drugs, I think the salicylate of sodium or lithium has given best results. Salicin perhaps does good by preventing acid fermentation. It is held that nitric acid stimulates the oxidizing process, and is therefore applicable.

In the debilitated and anæmic, especially women of a neurotic type, I am not sure that I observed the reputed beneficial effects of iron and arsenic. These patients generally have a disgust for food, and it is a difficult matter to follow any formulated plan of treatment.

Rectal alimentation, in my opinion, is a superior method of nourishing those who suffer from any acute gastric disturbance. Buttermilk served a most useful article in the case before mentioned. Patients not only tolerate it from the start, but, when its use is persisted in, often develop a liking for it. I think it contains the elements of a good food, and its use should become more general. It is in this class of cases in which there is a decided depression of the nutritive process that treatment seems least satisfactory.

A great deal could be said about change of residence, air and exercise, sea bathing, hot and cold baths, but into these we will not enter. It is not hard to say, build up the nervous system, control catarrhal condition of the alimentary tract, etc., but to do these is quite another thing.

I believe this uric acid formation manifested in digestive troubles to be more common than is usually supposed. In saying this, I am aware that some physicians interested in this subject might be liable to regard certain symptoms as gouty that others would attribute to simple indigestion or dyspepsia. To put such on a gouty treatment would probably be a good test.—Weber, *Cleveland Med. Gazette.*

Food for Infants.—The following recipes are now being used in all the Canadian hospitals. No. 1 is the more delicate of the two, and can be used in cases where the patient cannot retain even a soft-boiled egg. No. 2 is prepared in a different manner, and is more for cases where the patient is stronger or more nourishment is necessary. Both, as the ingredients demonstrate, are very nutritious. Calves' feet prepared in the same manner as No. 1, are also an excellent substitute for beef tea, and form another slight variety in the limited menu of the poor invalid.

Chicken Milk, No. 1.—Cut a chicken into small pieces, and see that it has been cleaned in the most careful manner, removing the skin. Put it into a china lined saucepan, with the bones and neck, the white part of a head of celery, and the stalks (not leaves) of a fresh bunch of parsley, a few peppercorns, and a little salt. Cover the meat with cold water, and let it simmer till it is in rags and falls from the bones. Strain into a flat basin or large bowl. When cold it should be in a stiff, clear jelly. Carefully, with a skimmer, take off the grease, and then

take a soft, clean pantry towel, dipped in hot water, and gently wipe over the top of the jelly with it, so that no particle of greasy matter can possibly remain. Take equal quantities of this jelly and fresh milk, put them into a small, china-lined saucepan, and let them boil together. Boil up the mixture three times and strain into a cup. A teacupful is generally considered sufficient at a time. The finest strips of dry toast are an agreeable addition. It can be eaten hot, or allowed to cool and form again into jelly, according to taste.

Chicken Milk, No. 2.—Prepare the chicken in the same manner as in recipe No. 1, but, instead of using water, cover it with a quart of fresh milk and use a *bain-marie*, or improvise one by putting the chicken and milk into a very large jam-pot, and setting that in a saucepan nearly filled with cold water; when the milk in the jam-pot boils the "chicken milk" is ready for use. Cream may in some cases be substituted for milk, and sometimes equal quantities of cream and milk are used.

A word of advice: Do not trust to your cook to follow out these recipes. No ordinary cook can see, or be made to see, why the leaves of the celery and parsley are not to go in; why the jelly should be wiped with a damp cloth; why the milk must be boiled up three times.—*Leonard's Med. Jour.*

PTYALISM OF PREGNANCY.—Mrs. X., aged thirty, born in United States, applied to me for treatment for salivation of pregnancy in the first month of her fourth pregnancy, stating that she had been troubled in the same way in her previous pregnancies, and that persistent treatment had failed to give her the slightest relief. Also, that her great-grandmother had given birth to nine children; grandmother, four; mother, five; and that profuse ptyalism had persisted during the whole nine months of each of these pregnancies. Fifteen months previous I had operated on her for a large rectocele, and she was, at the time of becoming pregnant, wearing a pessary for retroversion of the uterus and prolapsed ovaries. General health good. There was a constant flow of saliva from the salivary glands, requiring the incessant use of a handkerchief or a vessel for its reception. She complained of great dryness of the throat and inability to swallow the saliva. This was accompanied by vomiting, the constant dribbling interfering with digestion and sleep to such extent that the patient became considerably emaciated and weakened. Naturally of a neurotic temperament, her nervous system was considerably shattered at the close of gestation. I tried an astringent gargle, ice in the mouth, atropine, pilocarpine, bromides, and counter-irritation over the parotids. In fact, I nearly exhausted the materia medica in my efforts to give her relief. I also tried stretching the cervical canal, and the application of comp. tincture of iodine to the cervical endometrium, all of which afforded her not the slightest relief, the trouble continuing until one week after delivery at full term.—Gordon, *Brooklyn Med. Jour.*

ATROPINE FOR HEMORRHAGE.—1. The vaso-motor control over the pulmonary arterioles is nearly nil.

2. Vaso-dilators acting on the systemic blood-vessels can have no effect on the pulmonary arteries.

3. Atropine in full medicinal doses diminishes blood pressure by causing dilatation of the peripheral blood-vessels.

4. Atropine is, therefore, theoretically indicated in hemorrhage from the blood-vessels of the lungs.

—Soble, *Med. Record.*

THE ACTION OF THE CANTHARIDINATES.—Heryng describes (*Therap. Monatshefte*, November, 1891), the action of cantharidinate of potassium in twenty cases of combined pulmonary and laryngeal phthisis. There was pain after the injections, but this could generally be done away with by previously injecting a few drops of a 10 per cent. solution of cocaine. The injections were made with strict antiseptic precautions, at first between the shoulder blades, and repeated every other day. There was no inflammatory reaction or abscess at the site of puncture, but occasionally a small tender swelling appeared. Before each injection the urine was examined, and every week the body weight registered. Where there was no fever previously a rise of 0.5° to 1° C. was noted in the temperature. In one case there was marked improvement in the voice, owing to the swelling allowing a more exact approximation of the cords. Expectoration was easier, but there was no diminution in the number of bacilli. The symptoms of urinary irritation, when present, were increased quantity of urine and a small quantity of albumen, with tenesmus and dysuria. They lasted a couple of days, and were relieved by opium. The details of four cases are then given in full. Considerable improvement was noted in cases 1 and 3. In cases 2 and 4 the initial improvement was not maintained, one patient being lost sight of, and the other ultimately dying of his general condition. In the sixteen remaining cases, eleven of which were very severe and five moderately so, the result was negative, the number of injections varying from three to fifteen. No positive result was obtained from any local application of the same solution to the larynx itself. Heryng agrees with other authors:

1. That in early cases of laryngeal tuberculosis these injections bring about in some instances a swelling of the infiltrated parts, and a rapid cleaning of the floor of the ulcer.

2. That healing is thus favorably influenced.

3. That with 0.2 milligrammes no irritative effect is noted in the urinary system.

4. That the treatment is contra-indicated in severe cases of laryngeal tuberculosis, and also when the general condition is unfavorable, or irritative symptoms as regards the alimentary tract or kidneys are present.

5. That with doses of over 0.3 milligrammes these irritation symptoms appear.

6. That a disadvantage of the treatment lies in a diffuse, rapidly-appearing local œdema, which increases the dysphagia. This œdema disappears of itself in a few days, but in case of out-patients it should be borne in mind.—*Brit. Med. Jour.*

WOOLSORTERS' DISEASE.—In the *Arch. de Méd. Expérimentale*, August, 1891, S. Lodge gives an account of broncho pulmonary charbon with five cases. In a short historical sketch attention is drawn to the diminution of the disease since 1884, when precautionary measures were enforced. A few cases are still seen owing to the occupation sometimes being carried on in private and with neglect of precautions. The smell and irritant properties of the dust are well recognized. The following are among the symptoms: Malaise, bodily fatigue and somnolence, coryza and lachrymation, cough, at first dry then with expectoration containing anthrax bacilli, and difficulty in taking a deep breath. Palpitation, nausea, and vomiting may be present, and the author looks upon a feeling of constriction at the base of the chest as pathognomonic. Physical examination reveals a

bilateral pleurisy with moderate effusion and also foci of broncho-pneumonia. The urine contains albumen and sometimes even sugar. The temperature is never above normal. When fatal the disease lasts about six days. If the patient's occupation be unknown the diagnosis may be difficult. The prognosis should be cautious. Attention is drawn in the morbid anatomy to œdema in the tissues of the neck and mediastinum. There is fluid in the pleural and pericardial sacs. Besides injection of the bronchial mucous membrane there are elevations of a deep red color. The organisms are mostly found in the submucous tissue and also in the broncho-pneumonic foci. The spleen is usually normal in size. Prophylactic measures consist in ventilation and burning the dust collected in the ventilators, in the disinfection of the hands, and the use of special clothes. Eating in the workshop is forbidden. The diseased wool should also be disinfected by superheated steam—a point not enjoined in the regulations.—*Brit. Med. Jour.*

TANNATE OF MERCURY IN SYPHILIS—I do not use it to the exclusion of several other forms of mercury. I believe in inunctions, and usually begin treatment with a course of rubbings. I also favor a mild continuous course of hydrarg. cum cret. in certain cases, but I do prefer the tannate to the protiodide so far as my experience with it goes.

The advantages which it seems to me the tannate possesses over other preparations of mercury given by way of the stomach are :

1. That it is stable, does not decompose, dissolve, or change readily ;

2. It is quickly assimilated and quickly eliminated ;

3. A relatively large quantity of mercury can be thus given with safety, and a relatively large proportion is absorbed, as shown by quantitative analysis of the urine ;

4. It is not so prone, in my experience, to cause salivation as calomel and the protiodide ;

5. It is not so likely to cause diarrhœa and gastro-enteritis as the bichloride and protiodide ;

6. It is well tolerated by children in dose of 0.02 to 0.04 per day (gr. ⅓ to ⅔). Monti speaks well of it and finds it does not affect the digestive organs ;

7. Being unchanged in the stomach and only decomposed after it enters the alkaline contents of the small intestine, the stomach escapes any possible irritation, and, as we calculate to introduce something like two ounces of mercury by this organ during an antisyphilitic course, it becomes very necessary to give it in such a way as not to upset the stomach, and hence our calculations.—Allen, *Med. Record.*

AN EXAMPLE OF MINOR GYNÆCOLOGY.—In the summer of 1888 I was consulted by a lady, age thirty years, the mother of three children, who had not been well since the birth of her youngest child some three years before. The patient complained chiefly of pain in the lower part of the back, of increased loss at the monthly periods, and of a feeling of fulness and discomfort in the rectum, with occasional and profuse hemorrhages, and of dyspepsia.

On examination, it was found that the perineum was in good condition, that the cervix uteri was somewhat lacerated, and that the uterus itself was heavy, swollen and in a position of complete retroversion ; the depth of the cavity was three and a quarter inches. Projecting from the rectum there were several large internal piles.

After allowing the disturbance and irritation following removal of the hemmorrhoids by means of the clamp and cautery to subside, the uterus was replaced with a sound, and a Hodge pessary suitable to the case was put in. There are various methods used for reducing a retroversion, and although the use of the sound is condemned by many, yet it seems to me to be likely that those who do not manipulate gently—and there are many such—will do as much harm with the fingers as with the sound. It is a marvel to me that so many patients expect to be hurt, unless it be due, in part at least, to the pernicious teachings that two fingers must always be used for vaginal examination.

After wearing the Hodge for a month, the uterine cavity had become reduced in size by half an inch, and the general improvement in every way was very great ; still the lady did not feel quite well, and was troubled by dispeptic symptoms and by headache. About once in every four months an examination had to be made on account of increased pelvic discomfort, and on each of these occasions it was found that the uterus was lying more or less back, in spite of the pessary. In the spring of last year there began to be a somewhat profuse leucorrhœal discharge accompanied by a feeling of lassitude, and, on inspecting the cervix, some erosion due to slight eversion of the lips was seen. Several applications of carbolic acid and iodide were made with temporary benefit, and as the uterus was still somewhat large—cavity two and three quarter inches—with the tendency to displacement, it was suggested that the cervix should be stitched up, and this was done in May, 1890. There had been more of a laceration than had been supposed, as the tear had not extended through the entire thickness of the cervix, thus resembling many perineal lacerations which show little destruction of the skin. The operation has been a complete success. Three months afterwards the pessary was removed, and the cavity of the uterus was found to measure two and a half inches. The lady is now in perfect health, and there has not been any return of the displacement.

Three different conditions had to be dealt with : first, the hemmorrhage, due to the condition of the rectum, had to be stopped ; second, the pelvic congestion and headache, due to the retroversion, had to be cured ; and third, the irritation in the cervix, due to the tear causing leucorrhœa and preventing the uterus regaining its proper size, and in this way keeping up the displacement, had to be put right. Dyspepsia, evidently a reflex spmptom, set up by some hard tissue in the cervix, had also to be got rid of.

There can be no question about the advisibility of operating on the piles. There are many, however, who hold that a retroversion is not of any importance and need not be treated. To a certain extent I agree with this teaching, for retroversion is simply a mechanical wrong and of no importance, as long as it does not cause symptoms. But it is as great a mistake to say that no displacement must be treated, as it is to advise treatment in every case. When a retroversion is doing little or no harm, it should be left alone, but when it is a source of discomfort or of pain, it is useless to treat the symptoms and leave the cause alone. There are probably many who do not think well of Emmet's operation for laceration of the cervix ; the explanation of this state of mind is again simple : many cervices are more or less lacerated ; in a relatively very small number are symptoms set up by such an injury, and again I say that it is as great a mistake to hold that no cervix

must be sewn up, as it would be to say that everyone must be repaired.

It cannot be said that I was in a hurry to operate, for I waited eighteen months, tried the more conservative methods of treatment, and while great relief was afforded, yet a permanent cure was not obtained; and this only resulted after the slight operation, and by the help of the same pessary which had formerly given but temporary relief.

Too little attention is still paid to this operation, a surgical procedure which is almost free from risk to life, and which, in those cases where it is necessary, will restore a woman to perfect health who has suffered, perhaps for years, to such an extent as to render her unable to look after home or to get any enjoyment out of life.

The cases which cause most suffering are often those where there is little apparent laceration, and perhaps little erosion or so-called ulceration; those cases where the tear has either healed up by granulation, without treatment, or by the help of free and frequent applications of strong caustics, or after an operation has been performed, and the lips have been brought together without removing all hard tissue. The cases which give rise to the most severe symptoms are those seen after treatment has been undergone, and especially after an unsatisfactory operation. For success after Emmet's operation it is absolutely essential that all hard tissue be removed. It does not matter how deep the wound is made, as, if the operation is to be done at all, the stitches must not be put in until soft and healthy tissue has been reached. The immediate results of the operation are often remarkable; a persistent occipital headache may have disappeared by the time the patient has wakened out of the ether, and backache and pain in the sides will be cured in a few weeks provided that the operation has been undertaken before irritation has spread to the fallopian tubes. In such cases even one need not despair of effecting a cure by removing the original source of irritation. It must be evident to anyone that an eroded condition of the cervix, with more or less putrid discharge, may be a source of danger to the whole of the tract with which it is connected; and should this irritation have spread to the fallopian tubes, time must be allowed for it to subside. Quite recently I had to remove a great amount of hard tissue from a cervix where there was little apparent tear, and no eversion of the lips. The lady had undergone a four month's course of applications to the cervix without the slightest benefit, and a second course of such treatment had been suggested. Within two weeks of the operation she hardly knew herself, as she was free from pain. No other plan of treatment could have cured this patient, yet a consultant in large practice had said that no operation was necessary.—Skene Keith, *Med. Press.*

PRACTICAL POINTS FROM "THE MEDICAL WORLD."—A physician in Bunker Hill, Indiana, reports a case of quadruplets, born November 11, 1891. All were girls. One died; but at last accounts the remainder of the family were doing well.

Dr. Johnson, of Williams, Arizona, describes the case of a woman who resorted to Keeley for the opium habit. Two bottles reduced her weight by twenty pounds, leaving her very weak, jaundiced, much constipated, with no appetite. She passed large quantities of black, fetid urine. She still used opium.

Dr. Winger, of Bradford, Pa., says: On June 30, 1891, I was called in consultation by Dr. Russell, of this city, and found Mrs. H., aged nineteen, in labor at term with her first child. The brow was presenting, and in trying to correct the position through the imperfectly dilated os, we were astounded by the stifled cry of the baby. After waiting a few moments, the crying ceased, only to be renewed each time we made an examination, and when the doctor applied the forceps.

The grandmother of the child and two neighbor women were present and heard the repeated crying of the child.

Dr. King of Cincinnati, says that a young man, aged twenty-one years, complained of vesical irritability, with frequent seminal emissions and dribbling after micturition. The case had baffled several physicians. The cause was found to be a tight prepuce and retained smegma; which being removed, the man got well.

Dr. Badger, of Coventry, Vt., records a case of diabetes in a child ten years old.

THE MASSAGE TREATMENT OF SCIATICA.—The numerous drugs placed in the field against this lingering disease are a true indication that no specific as yet has been found to effect a positive cure. Electricity, both faradization and galvanism, have proved to be efficacious where internal medication failed. Another mode of treatment, unfortunately but very little practiced among physicians in this country, is the application of massage, which, as extensive hospital experience in Germany has taught me, will prove a reliable agent in most cases with or without the aid of electricity. Most certainly diagnosis must be beyond a doubt as to the cause of the neuralgia, to exclude ovarian cysts, caries and tumors of the vertebræ, inflammation of the spinal cord and its membranes, tumors and abscesses of the pelvis, para- and perimetritic exudations, psoas abscess, pregnancy, etc. Sciatica, however, as caused by an inflammatory process of the nerve or its sheath, or by a myositis of the surrounding muscles—be the exciting cause syphilis, malaria, lead intoxication, cold or over-exertion—is amenable to massage treatment. Syphilis and other dyscrasies, of course, require constitutional along with the mechanical treatment.

The most essential point in the massage treatment of ischias seems to be the *stretching of the nerve*, which is accomplished by placing the patient upon his back and slowly enforcing flexion of the hip joint, the leg meanwhile resting upon the masseur's shoulder to lessen or prevent flexion of the knee-joint. The force of the flexion is to be regulated according to the pain of the patient, and gradually increased from day to day. Along with the flexion, abduction, adduction and careful rotation are performed. Then placing the patient upon his belly, massage is applied to the affected parts and along the thigh as far down as the knee-joint, consisting of strong frictions, tapotement, petrissage and effleurage. (The French terms for these different kinds of massage being still in common use, and none more appropriate in the English language having been proposed, I may be pardoned for using them.)

To apply *friction*, insert the tips of the fingers of one hand deeply down into the tissues or upon the nerves and perform energetic circular motion, while the finger tips of the other hand apply gentle strokes in an upward direction. The aim of these frictions is to break up and remove pathological products from the tissues and to stimulate the nerves.

Tapotement in sciatica is made either with the radial borders of the extended hands, which are brought down upon the muscles in a kind of forcible percussion, or with the fists, where a stronger application is desired (gluteal muscles). The arm is not used in tapotement, all movement being made from the wrist alone.

Petrissage is a manipulation by which the muscle is seized between the fingers, and firm pressure, rolling and squeezing exerted. This squeezing is begun below and slowly advanced towards the center of the body.

Petrissage and tapotement have a powerful effect upon the circulation, and cause a strong general reaction in the parts to which they are applied.

Effleurage is done by moving the palm of the hand under more or less pressure along the surface in a centripetal direction. One or both hands may be applied, and while the second hand has nearly finished the movement, the first is brought back near the starting point, thus changing constantly and advancing slowly from the extremity of a limb towards the trunk. Effleurage enforces venous and lymphatic circulation.

The above treatment is applied once daily, perhaps with the exception of one day of rest (each week), the length of each séance varying from fifteen to thirty minutes (or more) according to the reaction in each case. Pain may increase at first, but that must not worry us; the patient will soon experience marked relief. It is wise to practice all movements and to apply massage to all those parts that are especially painful; they are certain to be involved most in the rheumatic process (Schreiber). The patient is advised to exercise his limbs as much as possible in the intervals of massage sittings. The cure may perfect in one to two weeks, while cases of long standing require from three to six weeks.

—Detlefsen, *Med. World.*

Medical News and Miscellany.

DR. B. E. HADRA has returned to Galveston, and resumed practice in that city.

CHICAGO'S female physicians gave a reception last Friday to Dr. Kate Mitchell, of London.

A SOUTH DAKOTA woman has sued a physician, claiming that he has rendered her husband a wreck by morphine hypodermics.

A GREENSBURG woman lived for seventy-two years after a complete and permanent hemiplegia. Who says that exercise is essential to longevity?

EX-CONGRESSMAN THOMAS B. WARD, of Indiana, has been added to the long list of Keely failures. He "became despondent, resumed his old habits," and died.

PROFESSOR R. C. M. PAGE, of the N. Y. Polyclinic, is down with a severe attack of "la grippe," with hemoptysis and threatened pneumonia. Dr. Delafield is in attendance.

ST. LOUIS is as prolific in medical societies as she is in colleges and ready-made prescriptions. The City Hospital Medical Society was organized November 4, with fifty members. It has no president; the chairman being chosen at each meeting. But though headless, the society is by no means brainless, as is shown by its membership including such men as Lewis, Prewitt, Love, Bond, Mudd, Boisliniere, Fry, etc., etc.

THE typhoid bacillus dies in cow's milk, in twenty-four hours; in goat's milk, in five hours. This is true as regards fresh milk; but the microbicide power weakens until in four or five days it is entirely lost. The power is also destroyed by heating milk 131° F. for one hour.

THERE should be some national law to regulate the practice of medicine, so that a competent man may exercise his rights to practise in any State of the Union without being bothered by a little Board in every State he may enter. This is becoming a nuisance. So says *The American Doctor.*

THE annual meeting of the Philadelphia Academy of Surgery was held at the hall of the College of Physicians, northeast corner Thirteenth and Locust streets, Monday evening, January 4, 1892. The annual oration was delivered by Dr. Thomas G. Morton—subject, "Progress in Surgery in 1891."

A STUDENT of pharmacy, in Hesse, was called upon to put up a prescription containing a 20 per cent. solution of chromic acid, salicylic acid and water. He put the crystals of chromic acid directly into the alcohol, whereupon an explosion took place, and the unfortunate student was severely burned in the eyes.

THE Boston School Committee have recently passed an order that the request of the Board of Health to appoint a number of medical inspectors of the schools be granted, the School Board assuming no responsibility. Fifty physicians will be appointed, and the inspection of the schools will probably begin on the first of the year.

A RUSSIAN doctor is reported to have been buried alive. Such items often appear in the journals, and we have often endeavored to ascertain their truth; but in every instance the story turns out to be a canard. We have no correspondent in Proschovitsaka at present, but, all the same, we decline to put any faith in the story.

WE are informed by the publishers of the *International Journal of Surgery*, that no change has been made in the editorial or business management, except that Dr. King has withdrawn from the latter. The journal has improved greatly during the past two years, and is now almost the only really good surgical journal published in this country.

THE death-rate of Boston last week was 33 per thousand, the total number of deaths being 292, as against 187 for the corresponding week last year. Although only 3 deaths were reported as directly due to the epidemic of influenza, it is evident that this disease is largely responsible for the very high rate. The death from consumption numbered 32; from pneumonia 57; from bronchitis 27; and from "heart disease" 20. Seventy-five of those who died were over sixty years of age.

—*Boston M. and S. Jour., December 31.*

A WRITER in Leonard's journal says that he saw a Siwash "medicine man" treat several Indians for consumption. His method was as follows: He threw into a kettle of boiling water a handful of digitalis leaves, then struck the patient several smart blows on the back with his fists, and held the man's face in the steam rising from the kettle until he was nearly dead. The pathological basis of this primitive method was quite as primitive, "By knocking on the back you loosen the lungs, and by steaming you spit them out."

"OH, THAT I could remodel man! I'd end these cruel pains by hitting on a different plan from that which now obtains. The stomach, greatly amplified, anon should occupy the all of that domain inside where heart and lungs now lie. But, first of all, I should depose that diabolic curve and author of my thousand woes, the pneumogastric nerve!"—*Chicago Daily News.*

THERE are some queer folks in England. In Dover, certain persons suffering from influenza, have been fined $25 apiece for appearing in public places. What sort of a place is the inviolate isle if a man with a cold in his head isn't allowed to go out of doors? If an Englishman can't sneeze in an omnibus or a public house without being hauled before a magistrate and fined, what was the use of Russell, and Sidney, and Hampden? A Dover magistrate would fine a man for having a cough in public. Is the grip to be the ruin of English liberty?—*New York Sun.*

GREAT EXPECTATIONS.—If, as we sincerely hope, the members of our new Board of Health are free men as well as intelligent and experienced physicians, which we know they are, we shall expect to see an exodus of doctors and grave diggers, wholesale closing of drug stores and undertaking establishments, shrouds bought at sheriff's sales and made over into wedding gowns, a boom in cradles and baby carriages, and, in short, everything to indicate an increased birth- and a diminished death-rate. This is what a wise health board, with power and means to institute reforms, can accomplish. It remains to be seen if the San Francisco Health Department is to be conducted for the good of the people, or if it is to be run solely in the interest of Klebs-Löffler bacilli, Eberth-Gaffky bacilli, Koch bacilli, political parasites, and other microbes.—*Pacific Med. Jour.*

DR. JACOBY was walking along Broadway one day when he met an old gentleman who was very rich, but who was at the same time noted for his extreme stinginess. The old man, who was somewhat of a hypochondriac, imagined that he could get some medical advice from Jacoby without paying for it.

"Doctor, I am feeling very poorly."

"Where do you suffer most?"

"In my stomach, doctor.

"Ah, that's bad. Please shut your eyes. That's right. Now put out your tongue, so that I can examine it closely."

The invalid did as he was told. After he had waited patiently for about ten minutes he opened his eyes and found himself surrounded by a crowd who supposed that he was crazy. Dr. Jacoby had, in the meantime, disappeared.—*The Comic.*

To the large number of stories of "the meanest man," which are frequently related, one should be added of a certain Frenchman, famous for his habit of grumbling at everything and on every occasion.

He was attacked by inflammatory rheumatism, and was carefully nursed by his wife, who was very devoted to him in spite of his fault-finding disposition. His suffering caused her to burst into tears sometimes, as she sat at his bedside.

One day a friend of the invalid came in and asked him how he was getting on.

"Badly, badly!" he exclaimed; "and it's all my wife's fault."

"Is it possible?" asked the friend, in surprise.

"Yes. The doctor told me that humidity was bad for me; and there that woman sits and cries just to make it moist in the room.—*Detroit Free Press.*

WEEKLY Report of Interments in Philadelphia, from December 26 to January 2, 1891:

CAUSES OF DEATH.	Adults.	Minors.	CAUSES OF DEATH.	Adults.	Minors.
Abortion	1		Gangrene	1	
Anæmia	1		Hemorrhage	2	
Alcoholism	2		Homicide		1
Apoplexy	14		Inanition		9
Asthma	1		Influenza	59	8
Bright's disease	14	1	Inflammation bladder	4	
Burns and scalds		1	" brain	1	9
Cancer	10	1	" bronchi	12	15
Casualties	7		" kidneys	8	
Congestion of the brain	2	2	" heart	1	
" " lungs	6	8	" lungs	143	35
Congestion of the liver	1		" pericardium	1	2
Cirrhosis of the liver	4		" peritoneum	3	1
Consumption of the lungs	41	8	" trachea		1
Convulsions	1	33	" s. & bowels	4	3
" puerperal	1		" spine	1	
Croup		17	" tonsils		1
Cyanosis		4	Insanty	4	
Debility	7	3	Intussusception	1	
Diabetes	1		Marasmus		11
Diarrhœa	1	1	Measles		2
Diphtheria		43	Neuralgia of the heart	2	
Disease of the brain	1		Obstruction of the bowels	2	
" heart	35	5	Old age	23	
Dropsy	1	1	Paralysis	8	
Dysentery	1	2	Septicæmia		1
Effusion of the brain		1	Softening of the brain	5	
Embolism	1	1	Suicide	2	
Fatty degeneration of the heart	3		Teething		5
Fever, catarrhal		1	Tetanus		1
" intermittent	1		Tumor	2	1
" puerperal	1		Ulceration of the bowels		1
" scarlet		14	Uræmia	2	1
" typhoid	4		Whooping cough		3
Gall stone	1		Total	455	263

THE last bulletin of the New York State Board of Health says: The reported mortality for November is the lowest of any month of the year, being a daily average of 291, that of the preceding ten months being 338. November is uniformly the healthiest month of the year in this State, showing for the past six years an average daily mortality that is less by 25 deaths per day than the daily average for the entire period, which is about 300. There were 1,000 more deaths than in November, 1890, but as the increase is distributed pretty uniformly in all classes of causes it appears to be from fuller reports and natural increase in population; the proportion of deaths from zymotic diseases is a little larger, the increase being in diphtheria, scarlet fever and typhoid fever. There were 567 deaths from diphtheria, a small increase over October. Of these, only 44 occurred in the small rural towns, not specified in the bulletin, less than 3 per cent. of the entire mortality, the most of the deaths being reported from cities and villages. Of

241 deaths from typhoid fever, 62 occurred in small rural localities, or 4 per cent. of their total mortality, about double the proportion of the rest of the State. During the month two deaths occurred from smallpox in the town of Seneca, and early in December another death occurred. All others affected have recovered and the outbreak there is at an end. The number of deaths from acute respiratory diseases is one-third greater than in the month preceding, and constitute the cause of death of 17 per cent. of the entire mortality. Epidemic influenza is the reported cause of a limited number of deaths; its greater prevalence will be shown in the December bulletin.

SURGERY IN THE NEXT WAR. — Professor Billroth spoke at length in the Austrian delegation, on December 2d, concerning the needs of the medical service in the next war. As the words of the foremost medical and surgical authority on the Continent, his address has been published in full by most German dailies, and has been quoted freely by French and Italian and Swiss newspapers.

Billroth spoke to a question regarding the improvement of the organization of the medical and surgical corps of the Austrian army, and when he was done the deputies of the delegation passed a vote of thanks to him for his exhaustive exposition of the subject. He began with showing that the progress in the manufacture of small arms, which has been the most remarkable change in weapons in the last few years, was such as would most aggravate suffering and slaughter in the battle of the future.

"The experience of the army surgeon shows," he said, "that wounds from cannon balls and grenades are exceedingly rare compared with wounds from rifles. At the battles of Weissenburg and Worth I had an opportunity to notice, and elsewhere also I made the same observation, that artillery wounds are very few, to say nothing of the cavalry, for cuts or injuries from blows are seldom to be found.

"In figures the proportion is 80 per cent. of the wounds come from rifle balls, perhaps 15 per cent. from heavy guns, and 5 per cent. from cavalry weapons. I speak here of battlefields and not sieges.

"I have heard the argument that the cause of this apparently gross disproportion between the deadliness of large and of small arms is that men injured by cannon balls or grenades die at once or very soon. In the war of 1870-'71, however, accurate statistics of those buried in the dead trenches show that comparatively few were killed by artillery.

"Surgical attention then must be devoted principally to the new infantry projectile. We have not had illustrations yet of its working in war, but we may form some conception of this. Some people say that the long range of the new rifle will lead to maneuvering at a distance, and that the shooting will be therefore wide of the targets. To be sure this maneuvering was the principle of the last war, but it has its limits. It depends on the contour of the country, and when an army is cornered it must fight.

"Had the French had enough ammunition to advance from two or three of their forts, the maneuvering would have been put to an end. A collision must come some time, and then what will the effect of the new rifle be? Bullets that formerly stopped at the bone will pierce it, and perhaps two or three other bones; the number of severely wounded will be rapidly increased, and the armies will dwindle rapidly.

"In consequence of the greater length of range, the wounded must be treated at a longer distance from the enemy, say 400 paces further than heretofore. Moreover, with the quicker movements of the troops comes the necessity for the quicker moving of the field hospitals. The number of porters of the wounded, already too small in the Austrian army, will have to be largely increased; in fact many wagons must be drawn up immediately behind the line of battle, to carry off the injured."

After dwelling upon the increase of mortality to result from the use of smokeless powder, Professor Billroth continued—

"Finally, that most terrible of fighting, the manhunt, will be facilitated by smokeless powder. This is the kind of combat in which the advance posts are opposite each other and neither is ready to begin. They watch keenly, and whenever a cap or helmet appears from bush or wall, the enemy, like the beast from its lair, spring forth to kill. In such warfare, the best-natured men are as wild beasts, and the blood freezes in the veins to hear from one of them after shooting his man: 'There! he keels over like a rabbit.'

"At Gravelotte-St. Privat there were 5,000 dead and 15,000 wounded. Two thirds of the latter were only slightly wounded, and were carried off by railway. For the severely wounded, when we calculate that two porters with one stretcher made the trip of 500, 600, and 700 paces ten times during the eight hours of the battle, we find that for the Germans alone 500 stretchers and 1,000 porters were necessary. We have left out of all consideration here the French, for whose severely wounded the Germans, as victors, had to care. This, at least, doubled the requirements, so that 2,000 porters and 1,000 stretchers were needed.

"This shows how entirely impossible the whole stretcher service is. The War Department answers always that it is impossible to increase the size of the trains with wagons, and peasants' wagons are often impressed temporarily. I remember at Worth that I saw a peasant's wagon full of wounded, the rifles and shakoes hanging over the side so it looked like a gamekeeper's cart with the rabbits strung along the box. When the War Departmenr contends that an increase of the train would load down the army beyond the possibilities of quick movements, I can only answer that new matter has been and is constantly added to the train, as, for instance, the telegraph wagon, the baloon apparatus, etc. Why, then, should the wounded be always neglected when the train is increased?"